605

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THE RISE OF MEDICINE.*

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I have been asked to discuss medicine from an historical aspect. Only the liveliest appreciation of the honor conferred has made it possible for me to overcome the crippling thought that not I, but some truly worthy disciple of medical history should be delivering the Chaillé oration tonight. Then, too, there has been ever present in my mind an inhibiting fear lest it be not possible in one brief lecture to trace for you the rise of medicine from dark and dank oblivion into the high light of modern times. The task of making what the incomparable Osler called "an aeroplane flight through the centuries, touching only the high peaks," can be accomplished best by painting a picture for you in broad splashes of color that will necessarily blur individual effort and make all but invisible the numerous single threads that have been woven so hopefully, so toilsomely into the web of medicine through all the ages. And yet, from all that I can gather, Stanford E. Chaillé would have wished to be glorified in no finer fashion than by having his life's work emphasized as only one of the strands in such a garment. None knew better than he the truth of Shelley's verse:

"The fountains mingle with the river
And the river with the ocean."

We of the world outside know Stanford E. Chaillé as an enthusiastic medical student, editor, educator, organizer, sanitarian, medical academician and scientist; you, his neighbors, friends, colleagues and pupils in New Orleans, know him as a courageous independent spirit, as an honest, simple, lovable and loyal man. Maybe the immanence of his generous spirit here tonight, in his beloved New Orleans, will lend inarticulate approval to the somewhat fatuous attempt to unroll the vast tapestry of medicine within the space of the small part of an evening.

It has been said that the development of medicine rests primarily on man's sympathy for man. There seems, however, to be warrant for assuming that the desire to be relieved of pain and disability represents a reaction based on the powerful instinct of self-preservation in contrast with the desire to relieve pain and disability in others representing a reaction based on love. May it not be, then, that self-preservation and love, two of the oldest instincts of man are the primal springs of action that ushered medicine from out of the nowhere into the now?

It would be difficult to deny that early man did at least as much for himself as animals do for themselves. Heated animals know the value of cool water, they cleanse wounds by licking them, dogs know the value of grass as an emetic and of

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sunlight as a restorer of stiffened limbs, monkeys check hemorrahge by application of the paw and are skilled in the extraction of foreign bodies, the ibis administers enemata to itself. Animals moreover extend help to helpless brothers, particularly to the young.

There are no written records to prove that primitive man learned in a purely empiric way to observe, experiment and deduce, but there are scattered about the world today peoples as primitive as untamed nature herself, and they furnish clearly the proof that primitive man does learn the relation of cause to effect as applied to disease. These primitive peoples do all that the animals do and much more: baths, primitive splints, circumcision, incision of wounds, urethrotomy, cystotomy, trusses, trephining, scarification, venesection and some form of actual cauterization are common knowledge to many aboriginal tribes.

All this is interesting, but for us this evening, the importance of primitive medicine lies rather in the determination of the reactions of aboriginal people to the idea of disease; and this is important because within us all, even down to this moment, there courses a strain of the primitive:

"I am a part of the seas and the stars
And the winds of the south and the north,
Of the mountain and moon and Mars
And the ages that sent me forth."

Even today we believe that toads cause warts, that horse chestnuts cure rheumatism, that prayer will cast out the demon of cancer and that stump water eradicates freckles. Such pseudodoxies are only a bit less common today than they were in the time of Sir Thomas Brown and those he described were of a lineage that traces back to Neolithic times. The importance to us of primitive man lies in the fact that he construed the natural as the supernatural —rain, lightning, volcanic eruptions, quakes and tidal waves were to his mind indubitable evidences of offended Gods or malevolent spirits, and disease was one of the omens of displeasure of these offended forces. Early man also capitalized the idea of sorcery and naturally concluded that the sufferer from disease was possessed by supernatural powers. As a result of his general confusion of thought, disease was regarded as an entity separate from the human body, to be treated by prayers, offerings, charms, amulets, incantations, all manner of dances, songs and noises, charmed numbers, colors and meaningless, gibberish words. In many, indeed in most instances, the proper use of these various charms and incantations was an esoteric art, to be learned and practiced only by a chosen and select few, the so-called medicine men, the forerunners of the priest physicians who played such an important role in the historic development of medicine.

Such then was our heritage from our primitive ancestors—a confusional misinterpretation of the fundamental causal relationships of disease, leading to bizarre and futile practices that nevertheless went hand in hand with a highly rational tendency to observe, deduce and experiment. It is not possible to say when primitive medicine gave way to those more rationalistic doctrines and dogmas which constitute the nucleus of modern theory and practice; for in this as in practically all other historic developments, transitions are so slow as to be almost unmarked. The gradient of cultural progress is usually so gentle and gradual as to defy detection. Allbutt emphasizes this thought when he suggests that the advance of standards may be due to a sort of psychical cross fertilization which sows in us the rudiments of a new epoch. At all events the truth holds that we cannot point to any particular period as marking the end of primitive and the beginning of modern medicine.

We do know that early Greek medicine is worthy of being characterized as the mother of modern medical thought. And we follow only the perfectly human inclination to bridge a gap when we seek for evidence of a transitional development

leading out of the dim days of the unwritten past into the clearer light of succeeding ages. This transitional period, covering at least six thousand years, was a time when recorded thought struggled onward and upward in various lands. The significant fact is that as contrasted with primitive times, thought is now recorded by graving it on stone, by impressing it on clay tablets, or inscribing it on papyri; such records come to us from the Chinese and Japanese, from the Egyptians, Assyrians, Babylonians and Jews.

With Chinese medicine we shall not tarry, for it is not a fruitful field for our purposes. Magic played a large part in Chinese medical theory and practice, the pulse was studied in confusing detail, acupuncture was a common procedure and organotherapy was extensively practiced. On the whole, the point of absorbing interest in relation to Chinese medicine is its barrenness and, even more interesting than this, the fact that it remained barren for thousands of years with an inflexibility that suggested to the mind of the historian Baas, the idea that Chinese resistance to progress preserves them from the diseases of development and from ultimate destruction.

Alfred Russel Wallace was so impressed by his study of early Egyptian people that he expressed the hope that man might once again attain the same high level of civilization that characterized the times of the Pharaohs. Osler pictures this same people as emerging "out of the ocean of oblivion" in a highly civilized state, sixty centuries ago. That Egypt led the way out of the quagmire in which primeval man floundered for so long is manifest in the comparatively high state of development of medicine among these early Egyptians. Egyptian medicine was practiced largely under the egis of the Gods; Isis and Osiris were the chief deities and the God Imhotep presided over medicine, much after the fashion of Aesculapius in later Greek mythology. The Gods functioned through two orders of priests, a lower order who were obliged to master anatomy, pharmacology, pathology, gynecology, surgery and ophthalmology, and a higher order who devoted themselves to conjury, prayers, revelations and charms.

Frazer says that "the movement of the higher thought, so far as we can trace it, has on the whole been from magic through religion to science." We begin to grasp the significance of this truth when we learn how large a part the priesthood and magic played in Egyptian medicine and that despite this fact, the Egyptian grasp of the fundamentals of medicine was both broad and rational to a marked degree. They recognized specialties in a fashion that furnishes an amusing commentary on the modern idea that present-day medicine is overridden by specialists. Herodotus tells us that the Egyptians employed a special physician for every part of the body. They were thoroughly conversant with baths, massage, inunctions, and food values; they recognized the indications for cathartics and emetics, the role played by vermin as disease carriers and the value of fumigation in epidemics. Egyptian surgeons bandaged skilfully, practiced cupping and venesection, circumcision and castration. Among them were clever lithotomists, men who performed amputations and particularly skilfull ophthalmologists and dentists. As pharmaceutists they are particularly noted. In popular use were opium, squill, hemlock, castor oil and various inhalations, suppositories, poultices, plasters and enemata. The very name of chemistry is derived from Khami, an old title for Egypt. Yet these old Egyptians, while they were developing a rationalistic though somewhat complex system of therapy, were at the very same time preaching the doctrine of the evil spirit as the cause of disease and were concocting most nauseous mixtures of human excrement as remedies. How queer, through all the pages of medical history, is the march, hand in hand, of basic truth and bizarre practice! Man has been and will eternally be incanting the poet Crabbe's verse:

"And now the torch of truth is found,
It only shows us where we strayed."

The early Assyrians and Babylonians appropriated most of the rational medical ideas from the Egyptians. Science reached a higher stage in Mesopotamia than it did in Egypt and yet medicine was largely subjugated to religion and to magic. Astronomy was born and architecture reached a high stage of development under Babylonian, Assyrian and Persian influence, but what was rational in their medical doctrines and beliefs was largely Egyptian in origin. Even the remarkable code of the Babylonian king, Hammurabi, is noteworthy rather as a mirror of the medical times and customs than as the promulgation of medical doctrines or theories that challenge attention. Likewise the ancient Jews were not pathfinders. As promulgators of social hygiene they stand out preeminently, but just as their history is made up of two eras, so their medical philosophy has two phases. The Jews passed through an older or biblical period and a later or talmudic era. The older period was one of close contest with the Egyptians; early Jewish medicine, therefore, reflects the acceptance of Egyptian doctrines in both principle and practice. The Talmud, a compilation of the decrees and traditions of the old rabbis, was not completed until the second or third century after Christ; and during this period the Jews borrowed from Greek medicine. Thus by paths too concealed to follow in a logical step by step process, we find ourselves removed from primitive man by thousands of years. We gain an inkling of the state of medical knowledge in that cradle of civilization, the Mediterranean basin, and we are prepared to witness for the first time the flowering of science in Greece.

The development of medicine in Greece illustrates in perfect fashion the influence of environment on national thought. The Greeks, inhabiting a peninsula and its fringe of islands, must necessarily have become a maritime people. As a sea-faring nation, Greece established with her neighbors contacts that fostered the development and spread of ideas. Here was a land of natural peace; neither wild beast nor jungles, torrential rivers nor tidal waves, earthquakes nor volcanic eruptions intimidated the spirit of this people. So situated that "an eternal summer gilds them yet", the Greeks learned instinctively not to fear nature but rather to love and study her; therefore, the natural sciences, among them medicine, were cultivated intensively and studiously. From the earliest times up to 500 years before Christ, Greece gradually consolidated her place in history and stabilized herself on a basis of constitutional government. During the earlier or Homeric period, she furnished what has proved to be an endless flow of beauty and stimulation for the thinking world. Later the semi-mythological lawgiver, Lycurgus, and the more human Solon, furnished a practical background for substantial national growth, and then Greece was in her flower.

One-half a century before Christ, when Pericles was establishing statesmanship and politics as realities, when Herodotus and Thucydides were writing history, when Aeschylus and Sophocles were constructing deathless dramas, when Phidias was planning masterpieces of architecture and chiselling glorious statues, and when Socrates and Plato were placing philosophy on a foundation that has stood for nearly three thousand years, Hippocrates, as a contemporary, was for the first time in history rationalizing medicine and converting it from an esoteric art practiced by priests, allied with Grecian Gods and goddesses, into a discipline resting solely on the firm basis of painstaking observation re-enforced by most carefully guarded deductions. A more subtly critical mind than his has never graced the art of clinical medicine and the principles of clinical analysis which he laid down constitute the foundation of what we today call bedside method. He wrote a large number of aphorisms, short, terse comments on disease that read like the dictated bedside notes of a keen, present-day clini-

cian bent on establishing a true relationship between particulars and generals, accidentals and essentials. He wrote also an admirable treatise on fractures and dislocations, on wounds of the head, on prognosis, on ulcers, on epidemic diseases, on climate and on epilepsy. He is supposedly the author of the Hippocratic oath, the earliest and most impressive document in medical ethics. Pity it is that time does not permit either to read to you some of the crystallized clinical wisdom of Hippocrates, or to expound to you his fanciful doctrine of the humors. It is difficult, however, to refrain from reminding you that every time you "God bless" a friend who sneezes, you are revivifying Hippocrates, who taught that mucus, one of the four humors that regulated body function, was manufactured by the brain and circulated throughout the body. If the body functioned well, some of this mucus flowed downward through the cribriform plate of the ethnoid. A sneeze favored this flow; hence the "God bless you." No more need be said to impress you with the fact that even Hippocrates faltered and groped on his way. Enough has already been said to demonstrate that as founder of Greek medical thought he stemmed the tide of superstition and loose reasoning and set medicine full face along the line of advance. How fascinating the thought that this line of advance has trailed directly from Hippocrates down to the announcement of yesterday's latest discovery in medicine. Not a trail as the crow flies, but one of infinite turns and twists, now forward, now back, now into the dark thickets, but eventually always into the clearing, with the aid of those torch bearers of medicine who are her heroes.

After Hippocrates came the rise of the Macedonian power, under Alexander the Great. Alexander was the pupil of Aristotle, the deductive philosopher who succeeded in imbuing him with a love of science. He established the city of Alexandria in Egypt, where later a great museum and library was established and where the finest traditions of Greek medicine thrived for several centuries. Two men stand out as pre-eminent during this Alexandrian period of medicine, Erisistratus and Herophilus, both clinicians of the Hippocratic stamp, inspired by the spirit of truth seekers. They taught that the brain was the center of the nervous system, that there was a difference between veins and arteries, that the intestine was made up of segments, that there was a system of chyle vessels and many other fundamental facts.

The destruction of Corinth, 146 B. C., marks the downfall of Greece and the beginning of her complete subjugation to Rome. As medical historians it is vital for us to recognize that Roman dominancy was complete only in the realm of world politics; in the realm of ideas the spirit of Greece lived on. About 125 years before Christ, Asklepiades, a physician from Asia Minor, had settled in Rome, transplanting there in an unfruitful bed of mystic, theurgic and primitive Roman medical practice, the nucleus of flourishing Greek medical thought. Asklepiades was followed by several so-called schools of medicine known variously as encyclopaedists, electics, methodists and pneumatists, important chiefly as illustrating an inveterate tendency toward cultism in medicine. For a time it seemed that the outstanding Roman scientist, Celsus, during the early part of the first century after Christ, would straighten out the now tangled skein of transplanted Greek medicine, but he failed to establish his supremacy. An authoritarian was sadly needed and curiously enough, as has been the case so often in world history, he was at hand in the person of Claudius Galen.

Claudius Galen appeared on the scene and re-established the principle of Greek medicine on the firmest of Hippocratic foundation. Anatomist, physiologist, clinician, Galen covered every field of medicine, including even the economic aspect. His sympathy seems very definitely not to have been with Roman practitioners, whom he said differed from bandits only in that the

physicians practiced in Rome and the bandits in the forests. He furnished admirable descriptions of the skeletal and muscular systems, dissected and described the brain, performed clever experiments on the central nervous system and made careful studies of the gastro-intestinal tract. However, the most noteworthy attribute of Galen was the assurance of the man, an assurance by means of which he established his authority for a period covering the Middle Ages lasting nearly fifteen hundred years.

We are now approaching the engulfing period known as the Dark or Middle Ages, an era that lasted from the fall of the western empire at the end of the fifth, until the Renaissance at the end of the fifteenth century. As students of medical history, it is important for us to bear in mind two facts: Fact number one is that it is as impossible to keep the world dark as it is to keep it dry. The thousand so-called dark years witnessed the political fall of Rome and Constantinople, the rise and spread of Christianity, the invasions of the Goths and Huns under Alaric and Attila from the North, the attack of the fanatic Turks from the South, the crippling of trade and science, religion and culture, the rise of Charles Martel and Charlemagne as saviors of Europe, the rebirth of church power under the stimulus of the crusades; and finally through the added stimulus of the establishment of universities, the discovery of America and the invention of printing and gunpowder, the world again found her place in the sun. How certain it is that a world going through a thousand years of such travail cannot be characterized as a world of darkness! The shadows slanted threateningly but the times were not totally dark; the mind of man did not revert to the state of primitive simpleness; rather was it lying fallow, fertilizing for years to come.

And fact number two is that medicine entered the so-called Dark Ages with an equipment of which she might fairly be proud. The medical profession knew about the commoner diseases of the respiratory tract and differentiated pneumonia from pleurisy, recognized tuberculosis in its various forms, and considered it to be an infectious disease, amenable to dietetic and climatologic treatment; understood the signs and symptoms of inflammation and placed wound treatment on a rational basis; prescribed opium, hyoscyamus, helebore, alcohol, turpentine and many other drugs with rare discrimination; used sutures and ligatures, was familiar with some fundamental facts of anatomy, recognized that the arteries carried blood and that the heart pumped it. In other words, by the end of the fifth century, the medical profession, on the whole, showed a grasp of disease nothing short of remarkable, if we bear in mind that the only bedside or clinical aids available for the practitioner were his five senses. Much of this fund of knowledge was lost sight of and, for the time being, was forgotten during the Middle Ages, and there was substituted for the rationalism of Hippocrates and Galen the unqualified authority of the Bible and Aristotle, neither of which were adapted to serve as sound underprops for medical growth.

The preservation of medical learning during the Middle Ages was due to two important facts. In western Europe, the monks patiently transcribed and stored valuable Greek treatises, made the teaching of medicine a formal discipline, and established the principle that the care of the sick was a task of Christian love and mercy. In Eastern Europe a group of scholars at Byzantium, who had been trained at Alexandria, and who were therefore familiar with and sensitized to the best in Greek philosophy and science, did the same thing. We must bear clearly in mind that the era of western monk medicine was not an inspiring one, indeed that it was rather a period of shakling in so far as the mind of man was concerned. Likewise the group of Eastern or Byzantine scholars was not productive in the sense of blazing new trails; they were merely copyists and ency-

clopedists on an even larger scale than were the monks. Oribasius in the fourth century compiled in seventy-two volumes, an encyclopedia of anatomy, physiology, surgery and phamacology. During the sixth and seventh centuries, three other Byzantine scholars, Aetius, Alexander of Tralles and Paul of Aegina made extensive compilations and began to show some signs of the old Greek initiative. Further, the Nestorians, after they were driven out of Europe in the sixth century, settled in Mesopotamia and Persia, carrying with them and preserving the best of Greek learning and traditions.

At the time that Byzantine literary effort was at its height, Persia was conquered by the Arabs, who thus became fertilized by Greek culture. What they did not absorb from the Nestorians they got through their contacts with the other Byzantine scholars, thus establishing one of the most interesting movements in all history. These Arabs, among whom were such famous physicians as Avicenna, Averroes, Avenzoar and Rhazes, were a nomadic people who roamed back and forth along the north coast of Africa, a people who loved learning and who treasured the legacies from Greece As they coursed the lines of trade along the Southern Mediterranean shore, they reached Italy and Spain over the convenient stepping stones of Sicily and Gibraltar, thus retransplanting into Europe the seed of Greek learning which had originally sprouted there.

One of the most important results of these migrations was the establishment of a medical school at Salerno in Italy in the year 800 and following this within a few centuries, the establishment of the great Universities in Spain, France, Italy, England and Germany. Of course, even the founding of universities does not signify that the minds of men had attained the prescience and depth characteristic of old Greece. The important thing for us is that learning did not die out during the Dark Ages, and that even if medicine of this period was steeped in theurgy and snarled in scholastic philosophy, the flag still waved over the ramparts through the dark night.

An awakening, however, was clearly evident in the work of four Englishmen who lived in the thirteenth and fourteenth centuries, Bernard de Gordon, Gilbert Anglicus, John of Gaddesden and Roger Bacon, who set about rationalizing medicine, putting the house in order for the coming of the famous Frenchman, Guy de Chauliac, who by the middle of the fourteenth century had re-established the fundamental surgical principles of Hippocrates, and who wrote a surgical text book that was almost biblical in its authority for two hundred years, until the actual rebirth of science occurred.

This rebirth is usually dated as beginning with the sixteenth century, a century of struggle and conflict, an almost constant battle between the vested doctrines of the past and the aspiring truths of the present. Galen and the Arabians, Aristotle and the Bible were displaced from their seats of medical authority and once again, for the first time in nineteen hundred years, medical men began to preach the doctrine: "Observe and deduce. Accept nothing on faith. Follow nature like a child."

We shall carry this sixteenth century better in mind if we call it the century of reformation and note the interesting fact that as far as medicine was concerned, the reform was limited to anatomy, internal medicine and surgery. The old Greeks, as we have already pointed out, were fairly skilled anatomists; but it was not always human anatomy they studied. They largely confined their dissections to animals. The Alexandrian school created the science of human anatomy, but Galen used chiefly swine as the animal most nearly resembling man, and he boldly applied to human anatomy the discoveries he made in animal dissection. As a result, we marvel both at the fullness of the anatomical knowledge of the Greeks and also at the large number of their facts that were not true.

In a word, human anatomy, as a thoroughly rationalized science did not exist until it was established by Andreas Vesalius about the middle of the sixteenth century. As a boy Vesalius had a passion for dissecting mice, rats, cats and dogs; as a youth he was stimulated by the spirit of independent investigation which characterized a group of early sixteenth century botanists, as well as by his teacher Sylvius, who did much to establish the necessity for human dissections. Sylvius and Vidius in France, and their forerunner Berengarius in Italy, dissected many human bodies and established many new facts in human anatomy, but these men were too thoroughly imbued with the authority of Galen to be able to see the things written plainly by Nature before their very eyes. Vesalius was no respecter of authority. His reverence for Galen was emphatic but he felt and said that anatomy based on animal dissections could only be a phantom. From the time he began studying medicine in Paris in 1533, through the period of his professorship of anatomy at the University of Padua, he zealously dissected, until he had disclosed more than two hundred errors in the so-called authoritative teachings of Galen. When he was twenty-nine years old, he collected the results of his studies in his book, De Humani Corporis Fabrica, Libri Septem, a volume characterized by Osler as "one of the great books of the world."

In 1546, Vesalius became the body physician of Charles the Fifth, serving him at court and particularly in his campaigns. Later he became an active practitioner recognized for his skill in surgery but no longer engaged in the active pursuit of anatomy. In the fiftieth year of his age he died under circumstances that have never been perfectly authenticated or understood.

Before his thirtieth year Vesalius had revolutionized anatomy; but in the doing it he brought upon his head a storm of criticism and revolt as difficult to understand as it was appalling in acerbity. What tragedy there lies in this perverse and oblique bitterness that shrinks the souls of men! Jupiter, jealous of the power of Aesculapius, used a thunderbolt with which to slay him. Man with more refined torture, crushes the very soul of his fellowman preaching new truths.

In a much less dramatic and thorough going manner, Paracelsus did for internal medicine what Vesalius did for anatomy, and he did it in a fashion strkingly identical with the Vesalian method, namely, the demolition of established authority and the substitution for it of independent observation and deduction. A Swiss by birth, he died at the age of forty-eight, in 1541, after having traveled all over Europe, occupying the chairs of medicine at Freiburg, Strassburg and Basel, holding none of them for any length of time on account of a rebelliousness of spirit that made life for him one uninterrupted Donnybrook Fair. Intemperate, coarse, egocentric and bold he was motivated by a spirit of revolt that colored his whole life. He publicly burned the works of Galen and the Arabians, declaring that there was more wisdom in the hairs of his beard than in all the books of the ancients, and that all reading was only a footstool to practice and a mere feather duster.

Let no one however think of Paracelsus only as a bold mouthing mountebank or tavern brawler. He was the first to deal a telling blow to alchemy and to place therapy on a basis of real chemistry; he introduced laudanum, mercury, lead, iron, arsenic and copper; he popularized tinctures and extracts; he recommended mercury for syphilis, preached surgical cleanliness, recognized the relationship between endemic goitre and cretinism and popularized hydrotherapy. He found the practice of internal medicine a nondescript mixture of quackery, cultism, herb doctoring, superstition and alchemy; he shivered the very timbers of its weak and tottering structure and initiated a reformation no less important for medicine than was the contem-

poraneous Lutheran reformation for religion.

And finally surgery was reborn during this sixteenth century of ferment. When 1500 dawned, surgery as a science was on a somewhat higher plane than was internal medicine for the reason that Guy de Chauliac and his immediate forerunners had left their impress upon it; but one can hardly grow enthusiastic over surgery as it was practiced in the early Renaissance period. Surgeons were for the most part cuppers, leechers, barbers, bath attendants, peripatetic herniotomists and cutters for stone in the bladder, who also gave enemas, extracted teeth, sharpened knives and prepared salves and plasters. A few surgeons, an almost inappreciable few, were men of academic attainments and broad vision, but even these few were only artificers carrying out the commands of internists who directed how, when and where to operate.

Ambrose Paré changed all this. Born in one of the French provinces where he worked as a barber's apprentice, he came to Paris during his twentieth year, in 1529, and served as a dresser in the Hotel Dieu. Eight years later he was campaigning, as army surgeon, with the troops of Francis the First of France. In common with the other two reformers, Vesalius and Paracelsus, he was a bold, courageous, resourceful man who was not moved by the shibboleth of authority, prefering to allow his infinite common sense full play and to follow natural law rather than ancient doctrine. He reintroduced the ligature for checking hemorrhage, thus banishing the barbarous actual cautery and boiling oil. He simplified wound dressing, invented an ingenious armamentarium of useful surgical instruments, discarded the common practice of castration in the operation for hernia, popularized the use of the truss, introduced the operation for cleft palate, excised loose cartilage of the knee joint and taught the obstetric operation of podalic version.

Besides the epochal reforms instituted by Vesalius, Paracelsus and Paré, there were many other medical events and men that lent color and enduring interest to the sixteenth century, but the laws of proportion prohibit more than the mere mention of one or two of them in such an address of this sort. A full discussion could be devoted to Michael Servetus, the discoverer of the pulmonary circulation and the victim of Calvin's bigotry, or to Fracastorius who coined the name syphilis, to Eustachius Fallopius, Columbus and Fabricius, all of whom did admirable work in anatomy under the stimulus of Vesalius' example, or to such a topic as the fierce battle of the venesectionists that was waged during the early sixteenth century, or to the story of the first cesarian operation performed on a living woman by the swine gelder Jacob Nufer; but one hour is too small a space in which to attempt to pack such infinite riches. We must content ourselves with the general idea that the sixteenth century was the era during which the wheels of medical progress set in motion with a modern swing, rolling on into ages of greater accomplishment.

The seventeenth century, although characterized by a steady advance of medicine and by epochal medical discoveries, nevertheless demands a special non-medical consideration. We find ourselves, for example, confronted with the vital relationship between medicine and philosophy, because during this particular period the four great philosophers, Francis Bacon, Baruch Spinoza, René Descartes and Gottfried Leïbnitz lived and thought. These men stimulated profoundly every field of human endeavor. Outstanding as were these philosophers, however, they did not establish over medicine a dominancy comparable with that of Aristotle. Medicine, having assuredly outgrown her swaddling clothes, appropriated such parts of philosophy as served her and rejected such parts as led into morasses of metaphysical argumentation, so that from now on she stands on her own feet. If a Bacon develop the marvelous instrument of inductive philosophy, or if a Descartes consecrate doubt as a factor of

incalculable value to science, medicine appropriates the new doctrines with avidity; but she will have nothing to do with complex philosophical theorizing as to the validity of abstract knowledge. Paracelsus fortified the Hippocratic dogma in teaching that medicine's job is to observe facts and to reason from them.

From another non-medical angle is this seventeenth century interesting to us. As we shall soon learn, Italy and the Netherlands furnished only a few pathfinders, and France and Germany were unproductive during this hundred years. The main stimulus for the advance of medicine was furnished by England. France and Germany were busy with devastating wars, whereas England, by no means pacific in spirit, was nevertheless stimulated first by the events leading to the rebellion and the protectorate under Cromwell, and then by the glorious outburst that attended the Restoration under Charles the Second.

The sudden change from the transcendental and conservative attitude of mind of the Puritan to the stark realism of the era of the Restoration reflected itself in science by a shift from a tendency to generalize to a zeal for the details of investigation. We mention the stimulating influence of the Protectorate and the Restoration on English medicine and the inhibition incidental to the sterility of war-ridden Germany and France in order to emphasize the basic fact that from an historical point of view medicine in not an entity and has no separate existence. The course of her development is dependent upon general conditions, so-called general culture, war, peace, prosperity, famine, plague, invention and discovery. And if there be needed a bit of corroborative evidence for this thought, we may say that in the fabric of American medicine the first fibres of warp and woof were laid down during this seventeenth century, through the efforts of those English physicians who accompanied the early colonizing expeditions to New England and Virginia.

If now we pick up the thread of our story and confine ourselves to the details of progress, we shall note that between 1600 and 1700, the circulation of the blood was discovered, histology was established, chemistry was elaborated and set on the firm basis of a science, the compound microscope was perfected and introduced into medicine as an instrument of precision, anatomy was elaborated by the addition of significant facts and internal medicine was developed by further insistence on the essential importance of noting and accounting for the demonstrable symptoms of disease.

William Harvey was the outstanding medical man of the seventeenth century. His discovery of the circulation of the blood was so fundamental that only with difficulty can one conceive the existence of medicine without this basic fact on which to rest. Vesalius came right up to the threshhold of the discovery of the circulation in his studies of the structure and course of the veins and arteries. Fabricius, the pupil of Vesalius and the teacher of Harvey, came a bit closer when he discovered the valves of the veins. Servetus opened up a limitless view when he taught that there was a lesser circulation through the lungs, a concept that was later reaffirmed by Realdus Columbus. Caesalpinus taught that the large vessels of the heart served partly as channels of supply and partly as channels of delivery, the orifices being guarded by little membranes to provide that the orifices leading blood into the heart do not let it out and vice versa. But Harvey, stimulated by the teaching of his preceptor, Fabricius, and familiar with the entire literature of the subject, after years of experimentation on animals, published in 1628 his thesis that the heart is a force pump and that the veins and arteries are the channels through which it circulates the blood. If Francis Bacon's new inductive philosophy required demonstrable vindication, it was furnished by the incomparable Harveian methods, which left unexplained only the capillary link, demonstrated thirty-three years later by Malpighi.

Marcello Malpighi, Professor of Medicine at Bologna and later at Pisa and Messina and Physician to Pope Innoocent XII, was a zealous microscopist, who in addition to discovering the capillaries, demonstrated the microscopic structure of so many of the organs of the body that he is credited with being the founder of histology. So zealously did he investigate the minute anatomy of the chick embryo that he is also regarded as the founder of descriptive embryology. Malpighi had an enthusiastic coworker in the old Dutch microscopist, Antony van Leeuwenhoek, who assisted materially in making the microscope a recognized part of an adequate medical armamentatium.

The collosal stimulus to the minds of contemporary students of medicine furnished by Harvey, Malpighi and van Leeuwenhoek may be imagined. Steno, Vieussens, Lower, Aselli, Pecquet, Wirsung, Glisson, Bartholin, Highmore, deGraf, Peyer and not a few other workers added valuable anatomic discoveries to Vesalian anatomy and began to point the way toward the development of physiology after the Harveian method. Another group of seventeenth century medical men lent color to these times by a zealous attempt to develop an all-embracing theory to fit the various phenomena of health and disease. One set of these theorizers placed their chief reliance on physics and another on chemistry and they have therefore always been known as the iatrophysical and iatro-chemical schools. Some of their mechanistic theories were pretty fine spun, but on the other hand some of the theorists were able to separate theory from practice; for example, the iatrochemist Sylvius, who was an eminently successful practitioner and one of the first to introduce the idea of bedside instuction into medicine.

There was still another group of seventeenth century medical men who planted their standard with Hippocrates, enthroning observation and making diagnosis, prognosis and treatment the outstanding accomplishments of the practicing physician. Unquestionably the greatest among this group of practical men was Thomas Sydenham, the London practitioner who has been called the English Hippocrates and the prince of physicians. The Royal College of Physicians placed on his grave a tablet characterizing him as "a physician famous for all time." His insistence that disease was a natural process best mastered by the study of phenomena at the bedside, and his disregard for the authority of books remind us of Paracelsus. When asked what were the best books for medical reading he replied, in less vituperative and more polished phrase than Paracelsus, "Read Don Quixote; it's a very good book; I read it myself still."

It would be fine to be able to furnish a pen picture of Archibald Pitcairn, Sydenham's Scotch rival, or of dear old Sir Thomas Browne, or to tell the story of the introduction of intravenous medication by the famous architect of St. Paul's Cathedral, Sir Christopher Wren, or to recount the story of Richard Lower, the first transfusionist in history; all of these men and measures are of the seventeenth century and temptation to give them place is great, but insistently the eighteenth century crowds her way into the foreground.

This eighteenth century furnishes an interesting interlude between the hundred years that preceded and the hundred that followed. The seventeenth century began an era of notable medical advance along several lines. The nineteenth century repeated the process in brilliant, meteoric fashion. The eighteenth century interlude was a period rather of critique, general enlightenment and clarification. The historian Garrison characterizes it as a time of dullness and sobriety "square toed, silver buckled and periwigged." However, what was accomplished was done in a spirit of stabilization, as if the eighteenth century were seeing to it that hard-earned assets should be firmly and securely knitted into the business of medicine so that nothing of value should be lost. With this assurance the way was opened for an occasional bril-

liant gleam such as the genius of a Jenner or a John Hunter.

Generalizing a little less broadly, we may say that the eighteenth century demonstrated the fullness of gross anatomy, adding only moderately to this now well-rounded science. Physiology, histology and embryology were definitely broadening fields. Likewise, pathology began to develop and was solidly cemented into the structure of medicine. Speculative philosophy menacingly raised her head again, threatening sober science in spite of such eighteenth century philosophers as Kant, Voltaire, Rousseau, Berkley and Locke. But as an offset to this by-play was the fact that clinical medicine began during this era to take on a significance that has steadily increased up to the present time.

A somewhat more detailed examination of these general propositions discloses that although such men as Valsalva in Italy, Winsow and Camper of Denmark and Holland, Albinus of Germany, Douglas, John Hunter and contemporary workers in England, were tilling the field of anatomy enthusiastically, their additions to this branch of knowledge were comparatively insignificant.

More must be said for the workers in the fields of physiology, histology and embryology. Albrech von Haler, a versatile Swiss who as a young man held the chair of medicine at the University of Goettingen, was an inspired investigator and an indefatigable worker who established the fact that irritability is a fundamental and inherent characteristic of living tissue. On this and the correlative fact, also established by him, that sensibility is solely the property of nervous tissue, he built physiology to the proportion of a science. Likewise Francois Bichat, a Frenchman, starting with the idea of his countryman, Malpighi, that organs possess an histological architecture, proved that the body was made up of separate and distinct tissues. He called his new science general anatomy, but we know it today as histology. At the early age of thirty-two, Bichat died of tuberculosis. Like so many of the famous consumptives of history, he was a man of intense feverish activity combined with poetic vison. No less a character could have dreamed the truth that "every tissue has everywhere a similar disposition, and its diseases must be everywhere the same." While Haller was working in Germany and Bichat in France, Morgagni was painstakingly plodding along at Padua, performing autopsies, abstracting medical literature and corresponding with scholars all over the world, with unparalleled zeal, to establish the single fact that disease caused characteristic gross anatomical changes. Morgagni found pathology an unsatisfactory collection of inadequate descriptions of visceral stones, hydatid moles, and similar bizarre observations; he left it an established branch of medical science. He worked on in spite of age, feebleness and blindness until his eightieth year when his famous book "Concerning the Sites and Causes of Disease Discovered Through Anatomy," was published.

Haller did not discover physiology, neither did Bichat nor Morgagni discover histology, and pathology, but they all elaborated these various disciplines to a point where they functioned as indispensable parts of general medicine. Caspar Fredrich Wolff occupies a similar position in relation to embryology. Harvey and Malpighi, as we have seen, showed the way during the seventeenth century, but Caspar Wolff in his work "The Theory of Generation," characterized as the greatest masterpiece of scientific observation we possess, put embryology on an unshakable basis. Such then was the complexion of this century from the standpoint of the basic, or what we now call the fundamental sciences.

Veering now to practical medicine during the eighteenth century, we note the interesting fact that in almost every land there is manifest a stir and strive and strain, a spirit of Hippocrates and Paracelsus and Sydenham redivivus, a note of clinical assurance resting not solely on the genius of great intuitive clinicians, but for the first

time, on the combination of intuition with the fundamental knowledge furnished by the great scientists and students of medicine. In Holland, in Germany, in France, in Austria, in England and even in young America, clinical workers are steering medicine and surgery for the apogee of bedside excellence.

The initial stimulus for this eighteenth century blossoming of internal medicine was furnished by three men who have been called systematizers: Friedrich Hoffman and George Stahl, both holding chairs at the University of Halle, and Herman Boerhaave, who made Leyden a Mecca toward which the medical students of the world turned their steps, who established his own fame so securely that it is said a letter addressed from anywhere "To the greatest physician in Europe" would have been delivered to his door, and who by his influence stimulated the group of enthusiastic clinicians in Vienna known as the Old Vienna School. One of the men of this Old Vienna School was Leopold Auenbrugger, who made the epochal discovery of percussion in physical diagnosis.

In France during the eighteenth century we encounter such men as Pinel, the emancipator of the insane, Anel and Brasdor, keen students of surgery, aneurysms in particular, Desault, Chopart, Petit and Littré, all of them first rate surgeons who dignified this branch of medicine to a point where it could now proudly lock arms with internal medicine. In Italy likewise, surgery found a champion in Antonio Scarpa who was also an enthusiastic anatomist. His interests were largely orthopedic and he is credited with having started this branch of surgery as a specialty. Germany was in the eighteenth century procession with Wrisberg, Zinn, Meckel, Heister, Lieberkuehn and Richter, all of them names that have become eponymic in surgical literature.

Even young America felt the wave of enthusiasm. Zabadiel Boylston, of Boston, in 1721, inoculated his son with human small pox virus, bringing down upon his head the wrath of the community; a young publisher, one Benjamin Franklin, editorialized bitterly against the procedure. John Morgan, William Shippen and Benjamin Rush established medicine on a firm footing in Pennsylvania, through their writings, their interest in the colonial army and their successful establishment of the Medical Department of the University of Pennsylvania. Before the end of the eighteenth century, America possessed five worthy medical schools.

It was in England, however, that medicine, during the eighteenth century, was in fullest bloom. The two Hunters, William and John, Percival Pott, the five custodians of the Gold Headed Cane, Radcliffe, Mead, Askew, Pitcairn and Baillie, Parry, who first described exophthalmic goitre, Heberden, Cullen, the three Munros and Abernathy, all of these are eighteenth century names. With most of them every intelligent young graduate in medicine is familiar even though he may not have studied medical history. Finally there is the great Englishmen, Edward Jenner, who was inspired to solve the problem of immunity of dairy maids to small pox and who finally worked out the method of vaccination on a scientific basis so firm that, for nearly a century and a half, it has withstood a veritable torrent of abuse and opposition.

By all these great accomplishments of great men, we are prepared to enter the nineteenth century; more than enter, we cannot; indeed we shall merely pull aside the curtain and peep in. During this hundred years, Sir Humphrey Davy, Alexander Humboldt, John Dalton, Charles Darwin and Georges Cuvier lived and worked. Faraday disclosed fundamental principles of electricity; Morse invented the telegraph and Stevenson the locomotive; Schleiden and Schwann announced the cellular theory of human and plant organization and Mayer and Helmholtz the principle of the conservation of energy; Helmholtz discovered the ophthalmoscope and Garcia the laryngyscope; Laennec discovered and dis-

closed the possibilities of mediate auscultation; morphin, choral, chloroform, quinine and strychnin were isolated; Fehling devised the quantitative determination of sugar; Virchow established the doctrine of cellular pathology; Semmelweis solved the problem of childbed fever; Pasteur made his unforgettable discoveries, leading to the establishment of bacteriology as a science and stimulating Lister to his epochal work on wound treatment; Koch discovered the bacillus of tuberculosis: anesthesia was introduced into surgery by Long and fixed there by Morton; Roentgen discovered the X-Rays and the Curies, radium; Florence Nightingale made nursing an art; Behring and Roux discovered diphtheria anti-toxin; Reed and his co-workers did away with the menace of yellow fever; Eberth discovered the cause of typhoid fever; Laveran and Ross the plasmodium of malaria and Schaudinn the organism of syphilis; local anesthesia was introduced by Karl Koller; war surgery was developed into a science by Larrey; McDowell performed the first ovariotomy.

Thus we might tabulate for an insufferable length of time, pyramiding fact on fact, but amenity with an extended index finger of caution calls a halt, warning against braggadocio and reminding that

> Most can raise the flowers now
> For all have got the seed.

It is our century, almost the very present one in which we live. The nineteenth century is too close to warrant pride and not quite far enough removed to permit reverence. Rather with humility should we contemplate this most wonderful of centuries, never letting out of mind that all that has been done in our own times and the immediate years preceding them was builded on stones set in place for us by our forebears and that:

"We breathe cheaply in the common air, thoughts that once great hearts broke for." And if this does not hold our modern ego in check, let us remember, as we take proud unction to our souls for our modern flair and brilliance, that our very own nineteenth century saw the rise of homeopathy, mesmerism, phrenology and other cults as mystic and theurgic as any that ever before fought for a strangle hold on rational medicine; let us with becoming modesty credit the victories of scientific medicine not solely to men of science but also, in part to the fact that

> "... through the ages one increasing purpose runs,
> And the thoughts of men are widened with the process of the suns"

OBSERVATIONS ON THE SURGICAL CORRECTION OF SQUINT*

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NEW ORLEANS.

Strabismus, or squint, is the deviation of one of the eyes from its proper direction so that the visual axes cannot both be directed simultaneously at the same objective point.

To correct this defect intelligently, I would recommend the plan originated by Dr. Edgar J. George, in which provision is made for the careful study and operation of squint cases. He says:

"This method, because of efficiency, safety, and results, has many points to commend it. Very briefly the treatment consists, first, of careful refraction; second, the study of muscular balance of the eye; third, the mapping out of operating procedure; fourth, a modified tucking and recession operation, in which a predetermined procedure is followed"—

I agree with Dr. George in the above except in the tucking which he performs, producing an added deformity to an already existing one, in lieu of using a plain hard knot of braided silk following a complete resection. In the event the deviation is benefited, refraction and correction of

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Fig. 1. Two months' interval between views 1 and 2 of this case following resection of externus and recession of internus.

the error is done on patients as early as two years of age. On the far-sighted cases, practically no reduction is made in the lens, usually resulting in the patient being comforted or relieved of the symptoms of eye strain, and enabling him to see objects more distinctly. These little ones will not permit glasses to be removed on retiring, and call for them before getting up in the morning. The object of employing the glasses is to assist the deviating eye in maintaining the normal position in order that the visual power does not become undeveloped, and at the age of seven, should the squint remain, some suitable operation should be performed.

The tenotomy, universally condemned, has done much to discourage the operator, patients, and public.

Tucking or resection, alone, without recession of the antagonist, is, according to my observation, a mistake, in that if enough correction is made to enable the eye to assume the normal position unaided by the constant use of glasses, the attachment of both lateral muscles should be altered more or less. Since you cannot hope for any material improvement in the vision of the squinting eye following operation, the cosmetic aspect becomes secondary in importance to the arrest of the deteriorating vision.

According to Ralph I. Lloyd on visual field studies:

"Normal fields and blind spots are usually assumed to exist in amblyopia from non-use, and central scotomas are not thought of because poor vision is attributed to non-use of the maculae in the early stages of life. The usual theory of strabismus centres about the muscles. Difficult vision is supposed to throw an additional burden upon accommodation, which, linked as it is with the adductor control, increases the adductor stimulus, if the patient is hyperopic;

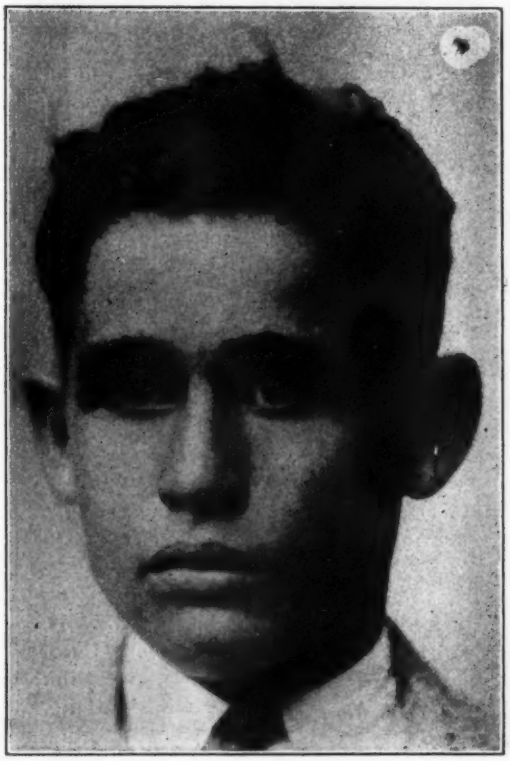

Fig. 2. Case as shown in Fly. 1, 8 years later. No glasses since operation. Patient calls at office occasionally No complaint of discomfort.

and increases the adductor stimulus, if the patient is myopic. The hyperope then should, if the error runs high, tend toward convergent strabismus and the myope should have a divergent eye."

When the squint develops, one maculae is turned away from the object gazed at and this image must be suppressed to avoid the annoyance of double vision. Habitual suppression leads to loss of the function of the maculae if, as is the rule, the chain of events related operated during the first two or three years of life. Pathology would be absent in genuine squint if this theory is true and our methods are perfect.

Fig. 3. About two months intervenes between views 1 and 2, following resection of externus and recession of internus.

Fig. 4. Case as shown in Fig. 3, 8 years later. No glasses worn since operation.

It is our opinion, then, that strabismus is associated with pathology, and is not a non-use complex. For this reson, cursory examinations of squint cases are out of place. More accurate measurements of deviations are in order and can be done without consuming the time usually thought necessary to accomplish this. More fields of these cases need studying and neurological assistance is frequently of great value to clear up the case. Our estimates of the amount of deviation which an operation will correct are in need of revision.

Scleral suturing has been exployed by Curdy with pleasing results. Jamison reviews his former work of recession Y. B. v. 19 page 72 and elaborates upon the technique of operation. He claims that the object of the operation is not to weaken the muscle, but to protect convergence after the extended retroplantation is performed by leaving the muscles strong and unimpaired. Jamison's paper is based upon a study of fifty-six operations of recession without advancement, in which deep scleral suturing, short of perforation, was practiced. The operation described freely exposes the muscle and, after detaching it, separates it from the globe, also its capsu-

lar continuity above and below, leaving, however, its sheath intact. The muscle is transplanted at once further back, and the operator accurately grades the procedure and fixes the location or reattachment. A conjunctival incision is made about 7 mm. long following the curve of the semilunar fold, the center corresponding to the caruncle. The ends of this incision are prolonged toward the cornea and in the direction of the fornices above and below. The flap is undetermined to its base and turned over toward the cornea. The semilunar conjunctiva is also undermined in the direction of the caruncle, with care not to disturb the fascia or areolar tissue on the surface of the muscle. The muscle is now undermined completely, and separated from the globe, and its capsular continuity severed above and below by incisions carried back beyond the equator. A tenotomy hook is inserted to facilitate clean dissection, and Reese's forceps, placed behind it, to grasp the muscle. The hook is then withdrawn and the muscle severed from its insertion in the usual way. The distance from the muscle insertion back to where the operator desires to recede the muscle end is now measured in millimeters and the point noted on the sclera.

Fig. 5. Operated 1922, as shown in view 1. Resection of internal rectus and recession of external rectus. Following antrum disease on left side, patient apparently developed cellulitis, 12 years previous to 1922. History of opening having been made over attachment of internal rectus to let out pus. Absolute blindness followed infection, resulting in an optic atrophy. When examined in 1922, optic disc was snow white. Could not distinguish between light and darkness. Pupil reacted perfectly. Following operation, patient gained 25 pounds, but wore glasses for close work on account of slight astigmatism. Employed for several years in Newcomb College office. Monocular blindness offers no obstacle to good cosmetic results.

The scleral suture, in my humble opinion, will greatly aid you in obtaining good results. Its exployment forever removes the possibility of making a bad guess as to what would become of the tenotomized muscle end.

Fig. 6. Patient 35 years old. Became happily married 3 months after operation

With the exception of eyes that possess central scotoma, lateral deviation in even totally blind eyes can be corrected, which means equally as much to the patient as though the eye possessed vision, in that a squint results in a more or less depressing effect upon the patient, well known to all oculists. This corrected, converts the unfortunate into a

changed individual. My observation of this work has not been made without disappointment. Feeling the necessity to exercise the greatest care, I have under corrected several cases, even when, with the use of glasses, more or less deviation persisted. These cases I have operated the second time, simply doing a small amount of nicking of both sides of the short muscle in order to lengthen it, but in so doing I have had proven to my satisfaction that in all cases observed, the attachment produced by suturing the muscle to the sclera was a splendid duplicate of the original attachment.

Fig. 7. One year intervenes between views before and after operation

SUMMARY:

Tucking without recession, followed by slipping of sutures and the production of deformities so objectionable to patients, is fundamentally wrong in that to tighten one lateral without loosening the opposite muscle gives rise to restricted motion or retraction of the globe. The short muscle is also at fault and must undergo recession if you wish to produce a necessaray balance. Resection with recession, suturing the latter to the sclera with 20 day 00 Chronic cat gut, is to me a great improvement over other methods.

PREVENTION OF BLINDNESS — There are still nineteen states and two territories of the United States which have inadequate or no legislation or regulations for the use of a prophylactic in the eyes of the new born. Sixteen states have as yet made no provision for the distribution of a prophylactic to those who officiate at the birth of a child.—Carris, L. H., Annual Report of the National Committee for Prevention of Blindness.

THE TREATMENT OF SPASTIC PARALYSIS WITH SPECIAL REFERENCE TO THE STOFFEL OPERATION.*

H. THEODORE SIMON, M. D.

NEW ORLEANS.

It is the erroneous tendency on the part of both general surgeon and clinician to consider treatment of spastic paralysis hopeless, together with its more common occurrence than is ordinarily supposed, which has prompted the selection of this subject. Sharp and MacClaine, in Surgery, Gynecology and Obstetrics, February, 1924, state that in 13 per cent of 100 consecutive deliveries, cerebral hemorrhage with some spastic symptoms was present.

While it is the object of this paper to consider orthopedic treatment, it is certainly not amiss to review briefly the pathology, etiology, symptomatology and diagnosis.

As is well known, this affection is not strictly a paralysis but rather a muscle hypertonicity, which varies from slight muscular irritability to a condition of rigid spasticity. There may be some loss of muscle power, but it is the excess of mus-

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cular contraction which renders the limb useless. This excess contraction is the result of the impediment with cerebral control; and with the removal of cerebral inhibition muscle tonus is greatly exaggerated. All muscles of a limb will show hypertonicity, but it is the stronger groups of muscles which will contract and this contraction will eventually cause deformity. These deformities are well formulated. As the flexor muscle groups are constantly stronger, we find in the lower extremity the hip to be flexed, internally rotated, and adducted, the knee flexed, the foot plantar flexed and inverted. With both lower limbs involved there is the scissors gait or crossed-legged progression from the adductor spasm. In the upper extremity the shoulder is adducted and internally rotated, the elbow flexed, the fore-arm pronated, the wrist and digits flexed.

The pathology is that of cerebral hemorrhage with formation of clot and destruction of cerebral structures—a final degeneration of the pyramidal tracts and lateral columns of the cord taking place.

Etiologically the standard classifications are those:

1. Of intra-uterine origin; under which are:
   a. Congenital defects of cerebral cortex or pyramidal tracts.
   b. Intra-uterine injury
   c. Syphilis.
2. Traumatisms during labor:
   a. Forceps (usually high forceps.)
   b. Protracted difficult labor.
   c. Wrapping of cord around child's neck causing congestion and subsequent hemorrhage.
   d. Hemorrhagic diseases of the newly born.
3. Those acquired after birth:
   a. Hydrocephalus.
   b. Meningitis
   c. Meningeal hemorrhages, embolus, thrombosis due to syphilis, vascular lesions, sclerosis, etc.

From a clinical standpoint four types are recognized:

1. Spastic monoplegia, where there is the involvement of a single upper or lower extremity.

2. Spastic paraplegia, when both lower extremities are involved.

3. Spastic hemiplegia, where half the body is afflicted.

4. Spastic diplegia, with an involvement of both upper and both lower extremities.

Symptomatically there is muscle spasm and rigidity, loss of muscle control, incoordination of muscle movement, increased reflexes, contractions with facial deformities, and lastly a possible retardation of mental development up to a point of idiocy in some instances. There is no doubt of the diagnosis in well established cases; in the milder forms increased reflexes are very significant.

The treatment must of necessity depend on the stage in which the case is seen.

I. If immediately at birth, it is found that repeated spinal punctures with drainages will relieve the intra-cranial pressure.

II. During the first few years of child life muscle re-education is found to be quite helpful. This re-education should be:

1. Development of the weaker muscles, this being done by gently aiding the patient voluntarily to use the weaker muscle groups to their fullest and then passively gently extending them beyond this point, then passively putting the limb in flexion and repeating.

2. Directing the eratic motor impulses into legitimate channels—by this is meant that the patient is taught to use each muscle group independently and thereby eliminating the setting into action of the entire upper limb when, say, flexion of the elbow only is desired.

3. Cultivating rhythm in the affected limb by either marching to music, perform-

ing movements to the heat of a metronome, or performing them synchronously with movements of the unaffected side.

4. Improving balance or equilibrium in affection of the lower extremities by such exercises as dancing.

5. Continuous stretching of the strong muscle groups by the use of casts, braces and splints. Massage and intermittent stretching is contraindicated because if we reason that massage and motion strengthen muscles, it is easy to see that this form of attempted re-education will improve the stronger as well as the weaker muscles.

From the above one is impressed with the need of a physiotherapist thoroughly trained in such work.

I. Besides muscle re-education Holt advises the use of pituitary gland extract in large doses (15 gr. daily), and in some instances thyroid extract added in small dosage. Especially does he think this beneficial in the types associated with lessened mental activity. It is obvious also that the syphilitic type be treated rigorously with the known methods.

III. The chronic type which has not responded to the above or which is too severe to attempt such palliative measures must be assisted by operative procedures. Among the operations employed are:

1. Tenotomies.
2. Tendon transplantations.
3. Alcohol injection of the nerves.
4. Decompressions of the brain.
5. Resection of the posterior roots of the spinal cord.
6. Sympathetic ramisection.
7. Partial resection of the motor nerves as advised by Adolph Stoffel.

Tenotomies in mild contractions are found beneficial, but in the severe cases the shortenings will in time recur.

Tendon transplantations have helped only in severe knee flexion where the hamstrings are transplanted into the patella.

Alcohol injections into the nerves produce a transient paralysis of the stronger group during which time the weaker muscle groups may be strengthened by the physiotherapy methods suggested above.

Decompression of the brain is useful at the onset and was found beneficial in late cases by William Sharpe.

Resection of the posterior roots of the spinal cord as advocated by Foerster requires a laminectomy, the mortality is high (7 to 15 per cent) and the operation difficult.

Sympathetic ramisection suggested by Hunter and Royle of Australia has been successful only in their hands,—here by a retroperitoneal dissection the lumbar sympathetic ganglia on the bodies of the vertebrae were exposed and the gray and white rami divided. This operation has been universally discarded in this country.

Lastly we come to the partial resection of the motor nerves which will be referred to as the Stoffel operation.

Adolph Stoffel, in 1910, demonstrated that the main peripheral nerves have a cable-like structure and that the nerve bundles making up the main nerve always bear the same relation to one another. He also showed that each muscle is made of several parts and that each part was supplied by a bundle of nerve-fibres. The muscle force is therefore made of an aggregate of the various muscle parts. With a knowledge of the topography of a main nerve trunk it can be exposed at any point of its course, the bundles isolated and tested with an electric current and a portion resected. The parts of the muscle supplied by the excised bundle become paralytic, the remaining muscle being spastic as before. There results a weakened muscle and if the correct nerve supply is removed, equilibrium will be established. In 1921, A. Bruce Gill, of Philadelphia, reported 32 cases of spastic paralysis so treated, with marked improvement, and since then this operation has come into universal usage

with such gratifying results, that even the most severe types of spastic paraplegia which are bed-ridden have been helped to walk. The only contra-indication for this operation is a lowered mentality which will prevent muscle usage even after equilibrium has been established.

To those interested in the operative technique we would advise the article of Gill, which appeared in the February, 1921, issue of the American Journal of Orthopedic Surgery. Here it suffices to say that for adductor thigh spasm the obturator nerve is exposed by an incision down the inner side of the thigh beginning at the symphysis and finding the nerve as it lies between the adductor muscles; in moderate spasm only the anterior branch is excised; in severe spasm the posterior branch is also included; in the latter case with no longer any obturator innervation it is found that the adductor magnus has a secondary nerve supply from the sciatic, the pectineus and hamstrings aiding this muchly weakened adductor in moving the thigh inward.

To relieve hamstring spasticity the sciatic nerve is exposed in the posterior upper mid-thigh, the nerve bundles supplying these muscles dissected, tested by the electric current and a sufficient number resected to relieve the over balance, thereby allowing the quadriceps extensor to function.

To overcome foot flexion the internal popliteal nerve is exposed in the center of the popliteal space; the nerve bundles to the gastrocnemius and soleus dissected and sufficiently resected.

For pronation of forearm and flexion of the wrist and fingers the median nerve is exposed on the anterior elbow, dissected into its component muscle bundles, tested and sufficient supply of the pronator radiiteres, flexor carpi radialis, palmaris longus, flexor sublimis digitorum and flexor longus pollicis resected—the amount depending on the severity of spasticity and contraction as in the other instances.

With the division of these nerves an immediate relaxation takes place. If contractions are present and can not be overcome while the patient is under complete anesthesia, tenotomies or tendon lengthenings should also be done.

These are two forms of after treatment, the one of putting the limb in plaster casts is one correction for several weeks, or the allowing motion as soon as practical. Where deformities are severe or where tenotomies are done the casts are imperative. After several weeks physio-therapy as before suggested is instituted and attempts at walking tried, if in the lower extremity, usually without the aid of braces.

Improvement is most marked, a scissors attitude which before resisted even the strongest attempts at reduction is transformed into voluntary thigh separation with ease, and so down the line of the other contractions

In the past four years we have operated according to the Stoffel technique on 12 cases, doing a total of 43 operations, 3 being on the median nerve, 12 on the obturators, 14 on the sciatics, and 14 on the internal popliteals. With the exception of the 3 median nerve operations improvement was most marked, the cases walking with a bad gait were improved immeasurably, and the 3 cases which were practically bed-ridden were gotten to walk with a considerable degree of satisfaction. Of the median nerve operations one improved markedly and when seen 6 months afterwards had excellent usage of his hand, the other two median cases while no longer showing the marked wrist, finger contraction had not established useful finger motion. The median resection is the least helpful because of the many intrinsic movements of the fingers and thumb. Some of these cases have been shown from time to time before the clinical meetings of this body and likely some of you recall them.

In conclusion I wish to reiterate that spastic paralysis is not a hopeless condi-

tion; that even in the most severe types where the mentality is near normal, adductor thigh and flexor knee and foot contractions can absolutely be relieved by the use of the Stoffel operation.

DISCUSSION

Dr. P. A. McIlhenny: I am very glad of this opportunity to compliment Dr. Simon on his interesting paper and especially on the results of some of the cases which I have had the privilege of seeing.

The primary point in the treatment of Little's Disease, or spastic paraplegia, or paralysis, I consider, is the mental condition of the patient. If the mental condition is below the possibility of re-education, or enlisting the help of the patient in developing muscles already weakened by stretching through the opposition in the other muscles, it is absolutely fruitless to attempt any procedure, whether tenotomy or nerve section. We must therefore be careful in determining that the patient is able to take advantage of the muscle education. The second point is to determine the actual shortening in the strengthened or hyperstrengthened group; the actual structural change in the opposition group. The only way to determine this is to examine the child while it is in profound sleep, or under gas-oxygen anesthesia. If we find that there are no real contractures or no structural changes have taken place, we may then safely take the position that the contractions are absolutely due to spasticity and that nerve section will give us a very good result. If, on the other hand, structural changes have taken place, we must do a tenotomy to relieve this actual shortening. After overcoming the deformity by attacking the shortened muscles, we then resort to the nerve section. I have used the method advocated by Lovett of Boston and Jones of Liverpool in the slight cases, of not doing a nerve section, but rather doing a nerve crushing by forceps, which are allowed to remain on a particular nerve for a time, and then remove them, thus paralysis is secured, but this is only a transient paralysis, and during the interval the opposition group which we weaken cannot overpower the atrophied group. I do not believe that this method should be used except in the mild type; Stoffel's operation is the one to be used in the exaggerated type. I also believe that post-operative treatment by fixing in a plaster cast, or bracing, is necessary to obtain a satisfactory result, unless you can supervise the patient at least twice a week. After tenotomy, after nerve section, then comes the real proposition—re-education—and it is not easily attempted, or easily carried out unless one has an experienced assistant. These children are, in the majority of cases, greatly spoiled and do not give any great help in carrying out these exercises unless we are able to devise games for them. Finally, get them up on their feet playing games, dancing and other exercises, and gradually bring them back to a position where they can use the re-educated muscles. That is the secret of post-operative treatment.

Dr. Edward S. Hatch: I want to compliment Dr. Simon on his paper. I think all of us have found that Stoffel's work is probably the best technique of all in these cases of spastic paralysis. Many years ago, as a matter of fact ten to fifteen years ago, Sharp and Farrell did cranial decompression for spastic parlysis in a large number of cases. They gave me a demonstration of their work, and many of their cases were in some instances remarkable; but we were not able to duplicate their work here. However, in a few of our cases the children were quite markedly improved. Forrester's operation and the operation of sympathectomy are very formidable work. Even in the hands of the most brilliant operators I have not seen better results produced than by the comparatively simple Stoffel's operation. As Dr. Simon says, "the Stoffel performs marvels."

My views coincide with those of Dr. McIlhenny, who touched on the fact that only those who are mentally able to help themselves should be operated on; that it is unfair to operate on an imbecile child, for no matter how beautiful your work, how technical and satisfactory, you do not get results with those incapable of taking care of their muscle action afterwards. Therefore, if you would obtain the best results, be careful in selecting your cases.

The nerves which I have operated on are the sciatic, the obturator, the popliteal and the median. The results are sometimes marvelous where the post-operative treatment can be carried out with a child who has sufficient mentality to follow instructions. But more impressive than correction of deformity or any physical improvement that takes place is the child's mental reaction, the whole mental outlook changes. The physical defect remedied, he can participate in the pleasures of his little friends, and seeing him a year or two later you will be amazed at the marked mental progress which is dependent on his ability to handle himself more like a normal child.

Dr. H. Theodore Simon (closing). I am glad Dr. Hatch spoke of the improvement, mentally, in these cases. Some men using this particular type of operation have advised operating on those with a lowered mentality, claiming that following operation the mentality improves to such an extent that useful individuals can be made out of the hopelessly mentally deficient.

The operation is simple, it is one in which we can control the stimulation removed and the results obtained are highly satisfactory. The tendency today is not to take enough stimulation. In the beginning, when we started this operation, our very conservatism took a small portion away, we did not get as good results. The simplicity of the operation is certainly appealing, the nerve bundles which go to the muscles are located in certain places and if the articles of Gill are followed, you can take up a hook and definitely pick up these nerve bundles. We use galvanic current to test and definitely verify the nerve bundle before we cut it away.

I have not tried crushing the nerve in these cases, but the results should be the same as injecting alcohol, a transient removal of stimulation.

THE KIELLAND FORCEPS.*

E. L. KING, M. D.,†

NEW ORLEANS.

This instrument was devised by Kielland, of Norway, who worked on it for several years before he perfected a forceps that he deemed satisfactory. It has been used extensively in various parts of Europe, especially in Germany and Austria, and the obstetricians of these countries have written voluminously regarding their experiences with this appliance. The literature was well summarized by Greenhill in 1924[1]. While I am not attempting to review the subject, I might also call attention to the recent articles by Jarcho[2], in this country, and by Brindeau and Lantuéjoul[3], of France. It would appear, from the recent American literature, that this forceps has come into vogue in this country in the past few years, and is being employed in selected cases in many clinics.

Some of the comments are very enthusiastic, some are distinctly unfavorable,

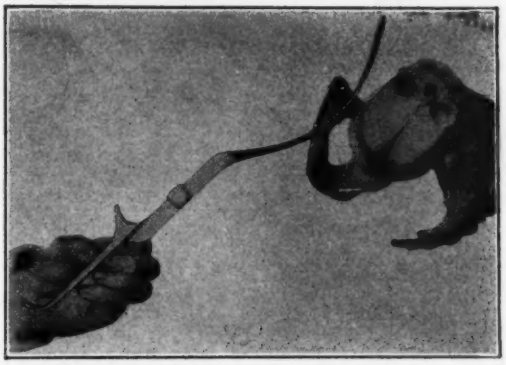

Fig. 1. Introduction of the anterior blade, the concavity of the cephalic curve being turned away from the head.

while many are favorable but conservative. Thus, Hoffman (quoted by Greenhill) recommends that its use be taught to every medical student, while Brindeau and Lantuéjoul[3] feel that by its use we can accomplish nothing that cannot be done just as well (or better) by the employment of the Dmelin No. 8 or the Tarnier forceps. The majority of the writers, however, take a middle ground, assigning to the instrument a limited field of usefulness, with its employment restricted to specialists in obstetrics. It is claimed by Kielland[4] and others that it is particularly adapted for the high application. The chief indication for its use, however, is the persistent occipito-posterior position, or, as some prefer to term it, the obstinate occipito-posteror position. We can all agree that at times this latter designation is particularly appropriate.

There appear to be three chief advantages claimed for this instrument in comparison with others, which points of superiority are due to its peculiar construction. The first is that the traction is made in the axis of the birth canal, as is done with axis-traction forceps. The second is that, when anterior rotation occurs in dealing with a head in the occipito-posterior positon, it is not necessary to remove the forceps and reapply it, as is done in the Scanzoni maneuver. The third is that, on account of the sliding lock, the blades may be applied to the sides of the head at dif-

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†From the Department of Obstetrics, Tulane University, School of Medicine. The author wishes to express his acknowledgment for the illustrations, which are taken from the following article, Kielland: The Application of the Kielland Forceps. Monatschr. f. Geb. u. Gynak., 43:48, 1916.

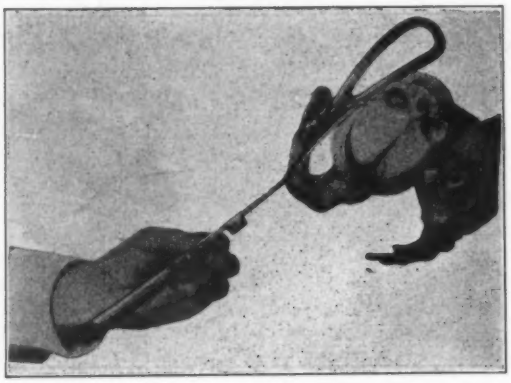

Fig. 2. Rotation of the anterior blade so as to bring its cephalic curve in contact with the side of the fetal head.

ferent levels; at the first traction they adjust themselves. The method of application, according to Kielland's technique, is peculiar in that the anterior blade is introduced upside down, between the cervix and the side of the head, and is then rotated into position, through an angle of 180 degrees. It would seem that this maneuver might entail damage to the lower uterine segment, especially if it is unduly thinned out, as is possible in an occipito-posterior position complicated, as it so frequently is, by a long, dry labor. Greenhill prefers to apply this blade in the usual manner, permitting it to "wander into place," and in my limited experience I have been inclined to favor this method of application.

Without attempting to discuss the various methods of dealing with a case of persistent occipito-posterior position, I may say that my personal preference is to permit the patient, under careful supervision, with obstetrical anesthesia, to bring the head as far down as she possibly can, and then to terminate the labor with forceps. I have used the Scanzoni method many times with great satisfaction, and have employed the Kielland forceps only occasionally, mainly in an attempt to evaluate this instrument. I have found it of value in several instances, and have been gratified to note that in some cases delivery has been accomplished easily after the attempted Scanzoni maneuver with the Simpson forceps had proved unsuccessful. A brief discussion of some of my cases may be of interest.

In one instance, the patient being a primipara with a roomy pelvis, the occiput rotated into the hollow of the sacrum, but the head was still rather high. The Simpson forceps was applied, but the traction served merely to bring the head against the symphysis, and no progress was made. The Kielland instrument was applied, the blades being introduced as in the usual forceps delivery, a deep medio-lateral episiotomy was performed, and the head was easily brought down and was delivered in the occipito-sacral position. In this instance, the fact that the traction could be applied in the axis of the birth canal was the factor of importance. In another case, that of a persistent R. O. P. position in a multipara, a very competent physician had failed to deliver the patient at home with forceps. She was sent to a hospital, and I attempted the Scanzoni maneuver without success. The Kielland forceps was applied, rotation was easily performed, and a living ten and one-half-pound baby was delivered. In another instance, that of a persistent L. O. P., failure with the Simpson forceps was followed by success with the Kielland instrument. On another occasion, I used this instrument to advantage in handling an L. O. A. position, with the head in the midplane. Delivery was indicated by the condition of the baby.

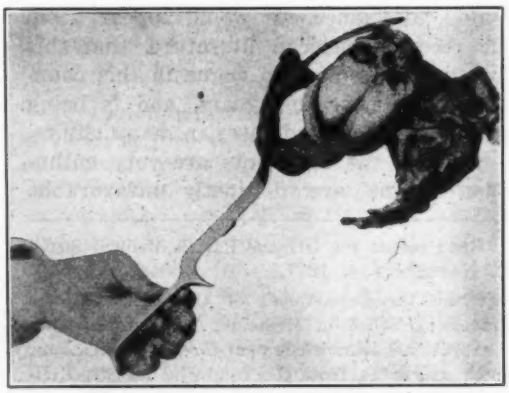

Fig. 3. Rotation of the anterior blade completed.

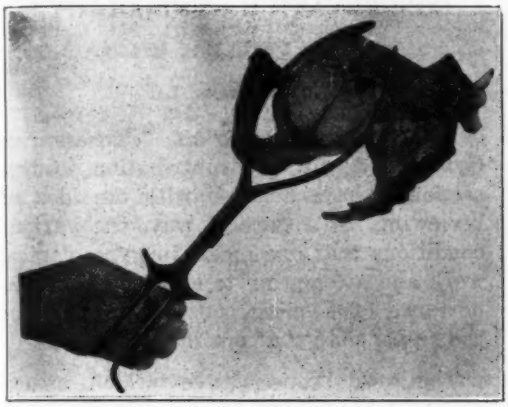

Fig. 4. Sagittal section through the pelvis, showing the position of the blades after the introduction and adjustment of the forceps.

Here again the chief advantage lay in the fact that the traction was easily applied in the axis of the birth canal.

It is only fair to record a failure recently experienced in the employment of the Kielland forceps. I had performed a classical Cesarean section on this patient two years before in her first pregnancy at term for placenta praevia. The convalescence had been complicated by a slight febrile reaction, but she was at no time particularly ill. Her second labor was characterized by an early rupture of the membranes; the child was in the R. O. P. position. I believe that anterior rotation and spontaneous delivery would have occurred ultimately. However, I was not willing to wait for this, feeling some uneasiness about the uterine scar, especially in view of the fact that, as far as her vagina was concerned, the patient was a primipara. Hence, when the head was fairly well down, with the occiput still posterior, I attempted delivery with the Kielland forceps, but did not succeed. Perhaps the application was faulty. The Simpson instrument was then applied, and an easy Scanzoni rotation was performed.

From my experience with these patients, and in some other instances not detailed here, I feel that I am on safe ground in concluding that the Kielland forceps is useful in certain cases of persistent occipito-posterior position, as well as in the occasional case of anterior position with the head in the midplane, in which delivery is indicated in the interests of the baby. However, we can not always be certain which instrument will serve us the better, until a trial is made. I have had no experience with the Kielland forceps in the high application. I believe that its use, at least for the present, should be restricted to those making a special study of obstetrics; if it is found to have a definite field of usefulness, the indications for and technique of its application may then be taught to our students.

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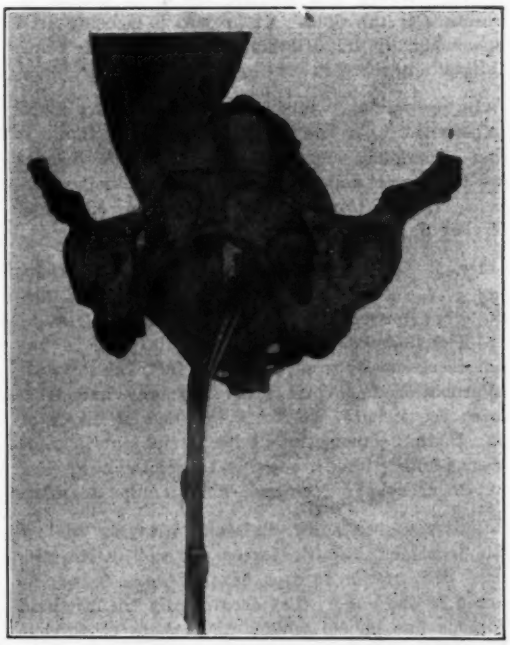

Fig. 5. Anterior-posterior view of Fig. 4.

DISCUSSION

Dr. L. A. LeDoux: Dr. King has ably described the Kielland forceps and its application, but there are one or two interesting points that I want to re-affirm. First, that it is a forceps that cannot be used in the home, but has to be used in a hospital under proper conditions, with a general anesthetic. Second, that it is very much more difficult to apply than either the Elliott or Simpson forceps. A third disadvantage, reported by men who have worked with it consistently and over a period of time, is that there is a high percent of injuries to the cervix and bladder. Numerous cases have been reported of rupture of the uterus, and frequently of the bladder, following the application of these forceps. The possible explanation may lie in the fact that they lack the proper curvature and, while much used as traction forceps, they lack the traction pull. In Europe, this particular forceps has had its vogue and been in and out of favor. Hausch has done as much work as anyone else with it and his results are interesting. Incidentally, Kielland mentions that Brindeau claims some fatalities due to the use of his forceps and Hausch has come to the same conclusion after getting a maternal mortality of 14 per cent and a fetal mortality of over 23 per cent, the maternal deaths due to rupture of the bladder and uterus; the fetal deaths to fracture of the skull. At present it is being used spasmodically, but I do not believe its use is being taught any more in Sweden or Denmark.

In my opinion, while I have not had very much experience with the forceps, I do not think it can accomplish anything more than the forceps we have been using. Simpson's and Elliott's forceps will effectively deliver any forceps case, and if they do not, it is not a forceps case.

Dr. E. L. King (closing): I think Dr. LeDoux has brought out the point that the Kielland forceps has passed through the experimental stage. In Kielland's home, in Norway, the forceps has not received any great favor, in fact, the greatest approbation has come from Germany and Austria; the French are not very much in favor of it. In this country it has been tried out in some clinics and I think in most instances the observers' experiences have been somewhat similar to mine.

I disagree with Dr. LeDoux in saying that if Simpson's or Elliott's forceps do not deliver the case it is not a forceps case; I have found, as noted in the paper, that occasionally the Kielland forceps has helped where other types of forceps have failed.

CONSERVATIVE GYNECOLOGY.*

WM. D. PHILLIPS, M. D.,†

NEW ORLEANS, LA.

In selecting the title of "Conservative Gynecology" for my contribution to this section, I have done so with the idea of reviewing, in a general way, the various conditions that one meets in gynecological work and attempting to emphasize the importance of keeping constantly before us the responsibility of our specialty.

The word "conservative" which, as explained to us, means "having the tendency of power to preserve" should be the watchword of any conscientious surgeon, but to those of us doing gynecological work, it should mean even more. We may amputate an arm or even a leg and the patient may, though incapacitated, continue to live a pleasant and happy existence. But, on the other hand, a removal of the ovaries, uterus, or both, in a young woman may mean a miserable existence for the rest of her life. Even though we are aware of this fact, we see instances every day of the careful surgeon who will ponder and deliberate for some time before removing a finger, arm or leg, but without hesitation will rush in and completely remove part or all of the sex organs of a helpless woman.

I, of course, realize that there are times when this is necessary, but I do believe a little more serious thought as to the absolute indications for hysterectomy, oöphorectomy and other gynecological operations will probably result in many days of happiness for our female patients.

I also believe that it is our duty to study our cases carefully, with the point in view of eliminating any type of operation, if possible. But, if an operation is necessary, care should be taken to select a type of operation which will eliminate future op-

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erations as nearly as possible. Briefly, then, our aim as gynecologists should be to relieve suffering by every known means before resorting to surgery, and, when surgery is attempted, we should endeavor to maintain the main functions of women, namely, ovulation, menstruation and propagation, and, in this manner, maintain the nervous stability of our patients.

To do this it is necessary that we preserve the ovaries, tubes and uterus and do everything possible to see that the functions of these organs are not interfered with. In order to attempt to convey my impressions, I will discuss this subject under the following heads. These subjects will usually, in the average case, be the cause for consultation:

(1) Pain in abdomen.

(2) Uterine hemorrhage.

(3) Backache.

(4) Leukorrhea.

(5) Sterility.

(6) Laceration of perineum.

PAIN IN ABDOMEN.

It would require too long a discussion and necessitate considerable digression from my subject for me to attempt to enumerate the causes of pain in the entire abdomen, so I shall eliminate the upper abdominal conditions and consider only lower abdominal pain. Tubal and ovarian diseases are most often the cause of such pain. Pain in the right iliac fossa, independent of the menstrual periods, usually points to appendix disease which, if definitely recognized, should be treated in line with our conservatism, and independent of other dangers we should realize the possibility of tubal involvement secondary to the appendix infection. Sharp, severe pain in the right or left lumbar region, extending down to the region of the bladder, may point to renal calculus.

Pain in the left side of the abdomen, independent of menstrual periods, frequently points to constipation, which I have found is a more or less constant complaint with a large number of gynecological cases presenting themselves for treatment. In my own experience, treatment of this condition has completely relieved a fair percentage of patients who were apparently ignorant of the real cause of their suffering and, in their own minds, were fully reconciled to the necessity of an abdominal operation.

If, on vaginal examination, we find masses in one or both sides, with the uterus adherent and with or without tenderness on both sides, we are reasonably sure that we are dealing with tubo-ovarian disease and even though no masses are felt, an adherent uterus always suggests existing or pre-existing inflammation. After eliminating all of the other more common causes of abdominal pain and finding evidence of pathology in the pelvis, we are then interested in the treatment of the local condition.

A carefully taken history of the previous health and habits of the patient will assist materially in the treatment and prognosis. A patient who gives a history of a miscarriage or a full term delivery, associated with temperature, frequently points to a puerperal infection whereas, on the other hand, a negative pregnancy history with a history of profuse leukorrhea and bladder symptoms, frequently points to a Neisserian infection. Smears should be taken in all cases, and just a word about the method of taking these. The average laboratory man will tell you that not only are you wasting his time, but yours as well, when you take the pus from your gloved finger and smear it on a slide; it is only in the very acute cases that you will obtain the gonococcus by this method, and in that type of case the clinical evidence is so strong that the microscope is hardly necessary to make a diagnosis. It is in the obscure cases that we must be careful to obtain (1) any pus, if present, from the floor of the urethra and (2) from the cervix, after carefully sponging the cervix with a piece of gauze. In some cases of

long standing infection, silver nitrate application to the cervix will cause the organism to appear. Several negative smears should be made at different times before a negative diagnosis is warranted.

In almost every type of salpingitis case, while in the acute stage, rest is the essential form of treatment. In some instances douches are used; applications of either heat or cold to the abdomen may also be of service.

Just how far we should carry our conservative treatment will depend entirely upon the type of infection and the symptoms presented. A very large percentage of cases resulting from puerperal infection will recover entirely if given plenty of time and continued rest treatment. If the gonococcus is responsible for the infection, the prognosis is not so good. However, in quite a fair percentage of these cases the patient will apparently recover and, with the exception of an adherent uterus and very often sterility from occlusion of the Fallopian tubes, will appear to be completely well.

I think we all agree that no cases of salpingitis should be operated on in the acute stage, except when it is necessary to drain a pelvic abscess or a broad ligament or tubal abscess and I am frank to say that it is my practice to defer abdominal operation in salpingitis cases until all other measures have failed, and only then after two or more repeated attacks of trouble. It is in the preoperative state of this type of case that I attempt to practice conservatism, realizing that no matter how good your intentions are, it is hard to be conservative when working in a pelvis in which tubes, ovaries and uterus are firmly bound down with adhesions.

There is very little to be said as to the type of operation in tubal conditions. I advocate conservatism by attempting to prevent infection extending to the Fallopian tubes and also by prolonged rest treatment, before resorting to operation. If operation is advised and found necessary, I do not advocate partial tube resection, except in extreme cases as, in my experience, it has resulted in future suffering and further operative work for the patient. My dictum is that if a Fallopian tube is diseased sufficiently to require partal resection, it is diseased enough to require complete resection.

Regarding ovarian conditions, the type of the disease and age of the patient will be the deciding factors as to treatment instituted. As a large number of the acute inflammatory and cystic types are associated with the inflammation of the Fallopian tubes, we would naturally institute the same plan of rest treatment. In chronic oöphoritis, on examination, the ovary is found to be hardly larger than a hen's egg; it is sensitive and other inflammatory evidences are present. These cases frequently present symptoms of ovarian dymenorrhea or intramenstrual ovarian pain, which may be referred to the hips, thighs, back or under the ribs. Palliative treatment for relief of the symptoms are usually advised, surgery being resorted to only in extreme cases or when all other conditions have been eliminated. In small cystic tumors of the ovary, unless symptoms are very marked, no treatment is instituted. In some cases, partial resection or careful enucleation of the cyst has been advised. In large cysts, removal by operation is indicated. Because of the fear of malignancy, all solid tumors of the ovaries should be regarded cautiously and removal is most often indicated.

In extreme cases of diseased ovaries in young women, without evidence of malignancy, where it is necessary to remove all of both ovaries, the function of menstruation may be preserved by means of ovarian transplantation, providing the uterus is left intact. I am sure we all agree that this procedure is practical, and I do use it in suitable cases very often.

UTERINE HEMORRHAGE.

In this group we will find a fairly large percentage of our gynecological cases. The bleeding may vary from a slight

intermenstrual bleeding to a more or less continuous hemorrhage, and I think it is here that good, sound judgment as to the treatment is so necessary. It has been my experience that tumors of the uterus have accounted for the largest number of cases suffering from intermenstrual bleeding in both young and old women. A careful study as to the type and size of tumor should be made. If we are dealing with a cervical or uterine polypus, the removal of the polypus followed by a thorough curettage or, if necessary, a hysterotomy is indicated. If it is possible to do so, I prefer to remove a cervical polypus with an electric cautery, especially in elderly patients, because of the fear of malignancy. I recall a recent case of this type in a woman aged 50; on microscopical examination, carcinoma was found at the base of the polypus. I was of the opinion that the heat had destroyed most of the remaining diseased tissue, but for fear of extension a hysterectomy was done, and I feel reasonably sure that the patient will have no return of the condition.

In the intramural or interstitial type of fibroid tumor of the uterus, and even in the subserous or subperitoneal types of tumor, the plan of treatment to be instituted will depend entirely on the size of the tumor and the age of the patient.

Myomectomy should always be the choice of operation in a young woman whenever possible, for in this manner the function of all of the organs is not interfered with. In a woman past the child-bearing period, the size of the tumor should be the deciding factor. In a small tumor, no larger than a three or four months pregnant uterus, not pedunculated, radium may be used, and in the larger tumor I feel that we are still doing conservative gynecology when we resort to hysterectomy, incomplete hysterectomy being done in cases in which the cervix is not diseased and the complete hysterectomy being done in cases associated with badly diseased cervices.

Another rather common cause of uterine hemorrhage is chronic metritis which may or may not be associated with a hyperplasia of the endometrium. This is the type of case which has been referred to by the laity as "the bleeding of the menopause" because of the fact that they usually occur at that time of life. In former years, a hysterectomy was frequently done for these cases, but, with the advent of radium, the treatment was very much simplified, and I do not know of any one type of gynecological case that responds so well to radium treatment as do these cases. For fear of malignancy, a diagnostic curettage should always be done and the radium then applied in the uterine cavity.

Extra-uterine or ectopic pregnancy, and both tubal and ovarian disease, are sometime responsible for excessive uterine menstrual or intermenstrual bleeding, and should always be eliminated before advising treatment.

Malignant growths of the uterus may also be mentioned as a possible cause of uterine hemorrhage, and my suggestion towards conservation here would be to make it routine to have all uterine scrapings examined microscopically and in suspicious cases sections should be taken from the cervix for examination. As a result, an occasional early malignancy may be found which would otherwise be overlooked.

BACKACHE.

Pain in the back is rather a constant symptom of gynecological cases and, as we are all well aware, it is caused by various conditions, such as sacro-iliac separation or sprain, arthritis, focal infections, infections of the posterior parametrial tissues, an extension from the infected cervix, constipation and retro-displacements of the uterus. A careful check-up on the patient's general condition, posture, etc., should be made, including, if necessary, roentgen-ray examinations.

Concerning uterine displacements, I feel much can be said regarding conservatism. There is probably no single gynecological operation which has been more abused than

uterine suspension. Fifty or more different types of uterine suspensions have been described and, in former years, we were led to believe that any patients who presented themselves for treatment suffering with pain in the back, and who at the same time happened to have a uterine displacement should, by all means, be operated on. More recently we have learned that only a small percentage of patients having uterine displacements really suffered discomfort from that condition. I do not deny that we do occasionally see cases of uterine displacement presenting symptoms, and in thoses cases operation should be advised, but only after eliminating all other possible causes, and after relieving the symptoms by correcting the displacement and maintaining the uterus in position by means of a properly fitting pessary.

Realizing that uterine displacements may sometime cause various discomforts, I wish to call attention to a fact which we all seem to be aware of, but for some reason or another, do not seem to practice, and that is that much can be done toward preventing uterine displacements if we would give more careful attention to the post-delivery treatment of our obstetrical cases, the more general use of the knee chest position and the use of properly fitting pessaries in cases of uterine displacements after delivery.

LEUKORRHEA.

This is one of the most annoying and trying conditions with which we have to deal in gynecological work, and a symptom of a disease that I feel in past years has been treated more empirically than any other. It is certainly not practicing conservative gynecology when we rush in and do a curettage for the relief of leukorrhea, as we all know now that there are very few real indications for this rapidly growing obsolete operation. In a large percentage of cases, the white discharge, or so-called leukorrhea, is caused by a disease or traumatized cervix, which may best be relieved in the average case by the use of the cautery. In some instances, it may be necessary to do a repair of a lacerated cervix, or even in extreme cases an amputation, but cauterization should always be the choice procedure if there are no contra-indications to same. But before resorting to any form of treatment, a careful check-up as to the cause of the leukorrhea should be made, remembering that in many instances a cervical gonorrhea may remain as such unless disturbed and spread by means of cervical treatment.

In extreme unilateral or multiple laceration of the cervix, trachelorrhaphy may be indicated, and only in rare cases have I found amputation of the cervix necessary. Even though trachelorrhaphy or amputation is contemplated, a preliminary cauterization to destroy infection will aid as to the final results. In my own work I am sure that the use of the cautery has removed the indications for operation in a large number of cases; but in all cases of cervical cauterization or operation I wish to lay emphasis upon the importance of a careful post-operative examination of the cervix, as the occurrence of partial stenosis of the cervix is not an infrequent sequela and should be observed early and treated.

STERILITY.

In this type of case we are usually first approached by the husband who will, with an assurance which is more or less characteristic of our sex, state that he wishes his wife to be examined in order that we may find out what is wrong with her that she does not have children. In very few instances does he seem to realize that the fault may be 100 per cent due to his abnormal condition, and it is here again that we practice conservative gynecology when we resort to a very careful examination of the male before subjecting the female to numerous operative procedures. We should remember that 25 to 30 per cent of males are permanently or transiently impotent. Of course, the causes of sterility are numerous, but I do think we should always determine the absence or presence of active spermatozoa in the male, and patulous

Fallopian tubes in the female, before subjecting the woman to various operations. When that is done our percentage of cures in cases of sterility will be much greater.

While searching for a cause of sterility, we should keep in mind that, aside from endocrine dysfunctions, there is probably no one condition which so frequently prevents conception as endocervicitis or infection of the cervical glands. Gonococcic invasion of the racemose glands within the cervix is the most common cause of this condition.

DYSMENORRHEA.

Painful menstruation is another very common cause for complaint in our gynecological cases and may vary from slight pains at menstrual times, to almost total incapacity at that time. Probably the most pathetic cases we see are in the young working girls, who are very much disturbed because of the fact of being kept away from work for a day or days each month because of severe pain at this time. A very careful analysis of these cases should be made. If they suffer from constipation, this condition should be treated. Careful attention should be paid their hygienic surroundings and the usual outdoor exercises advised. As our knowledge of the endocrines is still very much limited, I am unable as yet to state just exactly why we do see results in some cases of dysmenorrhea following the administration of glandular extracts. But I am frank to say that I have seen some remarkable results following the administration of thyroid and ovarian extracts and I always, in cases showing no marked abnormal conditions on examination, carry out a more or less routine treatment, as mentioned above, before resorting to any form of operative treatment and even then, the only form of operative treatment that I have found of service is a thorough dilatation of the cervix under an anesthetic.

Recent investigations in some of the large Eastern Universities regarding the frequency of dysmenorrhea shows a marked decrease of this condition, which can only be explained by a more general interest in athletics and exercise, and is a strong argument for plenty of outdoor exercise.

LACERATION OF PERINEUM.

Aside from the usual symptoms of pain in the lower part of the back and a dragging down sensation in the lower part of the pelvis, these cases, in the more simple types of laceration or relaxation, do not present any very marked symptoms. It is only during our routine examination that we find the injuries to the muscles forming the female perineum, and I believe we are practicing conservative gynecology by advising early repair of these structures, as by so doing the more serious type of bladder and uterine displacements may be prevented.

And finally, in conclusion, I again urge a more careful study of our gynecological cases before advising operation, and the more general use of medical gynecology, realizing that although its application is limited, in some instances remarkable results may be obtained. It is my firm belief that as our knowledge of that vast subject, endocrinology, becomes more extensive, our percentage of gynecological operations will be further diminished.

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DISCUSSION

Dr. E. L. King (New Orleans): I have very little to say concerning those points touched upon by Dr. Phillips; he has covered the ground assigned to himself very well.

From an obstetrical viewpoint, there are one or two ideas I would like to add to those already

brought out. One is the advisability of minimizing as much as possible operation during the child-bearing period. If you must operate, do as little as possible. I remember obstetrical cases I have handled after gynecological operations and thought it might be well to mention here some of the difficulties encountered.

Case 1. A multipara had had some extensive repairs done including uterine suspension (the type of suspension I do not remember). After she had been in labor several hours there was no progress, the cervix was pulled high up, and we finally had to resort to Cesarian section.

Case 2. In this instance an amputation of the cervix had been performed. On vaginal examination nothing could be felt except a little dimple. After several hours of labor she had accomplished nothing, that little dimple remained a dimple and we had to do a Cesarian section.

Case 3. The patient had undergone a high type of forceps delivery several years before and in her case there was apparently little or no cervix left; she presented a condition somewhat similar to the above mentioned amputation of the cervix. Cesarian section was performed.

Innumerable are the instances that could be cited of cesarian section following different types of gynecological operations. There are many effective methods of treating cervical infections and lacerations, and amputation of the cervix should be limited to those cases in which other methods have been employed and have proved futile.

Some very interesting work done at Hopkins several years ago was reported by Leonard in "Surgery, Gynecology and Obstetrics"; a comprehensive study of women who had had trachelorrhaphies done and those who had been subjected to amputation of the cervix. He found:

First: That hemorrhage was more frequent as a post-operative complication following amputation of the cervix.

Second: That sterility was more common after amputation.

Third: That when the cervix had been amputated the pregnant woman aborted more frequently than when a trachelorrhaphy had been performed.

Fourth: That there was more dystocia and that he had much difficulty in dilating these cicatrized cervices at the time of labor.

So, if these patients with lacerations come to us, we should take care of that damage by the use of the cautery. In cervices which have been lacerated, or cervices associated with considerable leukorrhea, the cautery will do wonders; in some cases, not in all, but if we do use the cautery to better conditions and then fail and feel that a cervix has to be operated on, the next best thing is trachelorrhaphy and, if possible, by all means avoid amputation in women during the child-bearing period.

Another thing to avoid is uterine suspension. Some of these women who have had the uterus suspended get along comfortably, a good many go through perfectly normally—some not quite normally—but there is always the threat of trouble.

A word regarding dysmenorrhea. This is a condition that can very often be corrected without surgical intervention. School teachers, stenographers and women who lead sedentary lives usually suffer with constipation. We dilate, curette, etc., and they do not get well; if they get well they frequently cure themselves. I had a patient upon whom I performed curettage and the insertion of a stem pessary without a bit of relief, and she finally cured herself by taking up athletics.

Another point in the borderline between gynecology and obstetrics, i. e., abortion. I do not believe in cleaning out an incomplete abortion with a curette. A great many cases can be cleaned out with the finger or, where the cervix is not sufficently dilated, the retained secundines can be cleaned out with sponge forceps. Never use a sharp curette, particularly when the patient has high temperature. If there is free hemorrhage, and you have to clean them out, excessive gentleness is the rule, in order to avoid a flare-up and consequent general infection.

Dr. John Dicks (New Orleans). Dr. Phillips has certainly covered the field of conservative gynecology thoroughly and brought out the conservative plan of treatment. Under one of his headings he mentions sterility. In this connection I certainly agree with the essayist that when these unfortunate women come to us sterile, if we simply accept them as sterile and do a curettage, we are doing them an injustice. What he said is timely; we should go further in the study of these cases. Rubin's test for sterility has not proved satisfactory in my hands and I have discarded it, using instead the lipiodol injections with fluoroscope. This method is a big help to us in diagnosing these cases and determining what treatment to adopt.

There is another point I would stress. No paper on gynecology is complete until we go further into the rest plan of treatment for pelvic infections. These cases ought to be more thoroughly studied from the standpoint of diagnosis. I do not think that every case recorded as pelvic infection should be classified as such and the nature of the pathology should be determined before we

give treatment. Suppose a woman comes in with an acute attack of gonorrhea. We know that before we operate her temperature should be normal, there should be no rise in temperature after examination and her blood chemistry should be normal. There is no danger in resting these cases. There is another type of infection we ought to study, the post-partal and post-abortal and learn to differentiate between it and Neisserian infection. The pathology of infections following abortion is entirely different from the Neisserian; they are the infections that spread in the layers of the broad ligaments through the lymphatics, and this type should be watched, for there is danger of abscess formation and rupture of the broad ligament. In gonorrheal infections we do not fear a ruptured tube and can rest these cases without danger. Study and know your different types of pelvic infections before putting them on a rest plan of treatment. If the infection is the post-partal or post-abortal type make frequent vaginal examination to determine the presence of abscess formation. If an abscess forms do a vaginal drainage before rupture takes place.

What Dr. Phillips said about myomectomy and every other point is well taken. I enjoyed his paper very much.

Dr. W. D. Phillips (closing): I have nothing further to say except thank Drs. King and Dicks for their discussions. I had a general subject and a limited time to present it, therefore could only run through and touch upon it in a general way.

NEUROLOGY AND THE TEACHING OF MEDICINE—Problems in the natural history of disease are now more engrossing than the disease itself—we are more concerned for instance with the pathways of infection of the central nervous system than we are in neat descriptions of hopelessly paralyzed muscles resulting therefrom. This digging after roots deep in the ground is thought unproductive looking work — we have almost lost interest in the flowers and shrubs on the surface—and, for a while, less spectacular results may be available for show. This search for prime causes has also changed or rather better adjusted our value as a single specialty—added knowledge has revealed our unity with general medicine—we are discontented with labeling a disease "subacute combined sclerosis of the spinal cord"—we must find out its affiliations with pernicious anemia and with antecedent gall-bladder disorder. Epilepsy has ceased to be a diagnosis and has become a damning verdict—we must try to find the toxic factors which give rise to epileptic phenomena, which is now looked on as but congeries of symptoms produced by other agents. —Foster Kennedy, Science, 67:178, 1928.

HEMORRHAGIC COMPLICATIONS OF THE LATER MONTHS OF PREGNANCY.*

C. JEFF MILLER, M. D.

NEW ORLEANS.

Placenta previa and premature separation of the placenta furnish a painfully large proportion of our obstetric tragedies. Indeed, they rank immediately after puerperal infection and eclampsia as factors in the maternal death rate, and they stand almost at the head of the list as factors in the fetal death rate. Prophylaxis, no matter how painstaking, apparently cannot avert them. The causes of placenta previa are beyond human control, and even if premature separation of the placenta be due, as the modern belief is, to some toxemia, it is one as yet unidentified, so that efforts at prevention, beyond routine prenatal care, are little more than strokes in the dark. On the other hand, in both conditions the mortality is entirely in proportion to the promptness of diagnosis and treatment, so that of no other complications of pregnancy may it be more truly said that the death rate, at least on the maternal side, is so largely in our own hands.

The real danger of placenta previa, or implantation of the placenta within the zone of uterine dilatation, lies in its insidious onset. The initial bleeding is rarely severe, and may be little more than a spotting or a slight discharge. The patient, for this reason, is inclined to minimize it, and too often the physician follows her lead. Such a sense of security is utterly false. The condition is as potentially tragic as premature separation of the placenta, even though it lacks its dramatic onset. The initial spotting may be followed by a hemorrhage so severe that the patient may die before it can be checked, or it may continue as a slight discharge over days or even weeks, with a total blood loss so high that the additional normal blood loss of par-

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turition, added to the degree of anemia already present, may bring about a fatal termination.

It is not too much to say that any painless, causeless bleeding after the sixth month of pregnancy demands a presumptive diagnosis of placenta previa, and that the exact diagnosis should be established at any cost. As a rule, confirmation is not difficult. Vaginal examination reveals a cervix edematous and boggy, with telltale blood clots extruding from it, and usually patulous enough to permit the examining fingers to palpate the characteristic, cushiony mass of the abnormally implanted placenta. If, however, this is not possible, then examination under anesthesia is warranted, even at the risk of exciting premature labor.

The only place for a patient in whom placenta previa is diagnosed or suspected is the hospital, and for my own part, I prefer to postpone even an examination, if that is possible, until after admission. For one thing, the gentlest vaginal manipulations, or rectal examination, for that matter, may excite an acute hemorrhage, so in any case examination should never be begun until all preparations have been made to insert a vaginal pack. In addition, these patients are peculiarly prone to sepsis, because of their impoverished blood supply and because of the close proximity of the gaping placental sinuses to the vaginal tract, so that the aseptic safeguards of hospital practice are essential. The patient should be prepared for examination as carefully as if she were an actual parturient, and the obstetrician, on his part, should observe the full ritual of the delivery room.

The first consideration in the management of placenta previa is to stop the hemorrhage, and the only sure way to stop it is to terminate the pregnancy. There is no place for expectant treatment in a condition as treacherous as this. How best to effect delivery, however, is a question which can be most wisely decided by taking into consideration the period of pregnancy, the degree of cervical dilatation, the type of previa, and the condition of mother and child.

Before the period of viability the problem is fairly simple, for the child may be entirely disregarded. Intrauterine manipulations, other than a preliminary puncture of the membranes, are rarely indicated. A firm vaginal pack is then inserted, consisting preferably of cotton pledgets, moistened in a mild antiseptic solution, and applied through a Sims speculum with the patient in the Sims position, or, better, in the knee chest position. The entire pelvis is packed as tightly as possible, and the pack is not removed until it is evident that a sufficient degree of dilatation is present to permit bipolar version. The subsequent delivery is effected by uterine contractions alone. The breech acts as a perfect tampon to control further hemorrhage, and since the life of the child is not at stake, haste is unnecessary. Moreover, immediate extraction is very dangerous, for the friable tissues of the lower uterine segment are readily lacerated, numerous large veins in the vicinity of the cervix predispose to hemorrhage, and rupture of the uterus is a possibility not to be ignored.

After viability, the marginal type, which fortunately is the most frequent and least serious, is best managed by simple puncture of the membranes. The presenting part is thus forced down, by normal uterine contractions, as a tampon against the placenta, and labor may offer no indication for further interference. If the bleeding is serious, however, and the cervix is sufficiently dilated to permit its insertion, the hydrostatic bag gives excellent results. After complete dilatation has occurred, delivery is effected according to the indications. If the head presents, forceps may be applied cautiously, but usually the presenting part will have been displaced by the bag and version will be necessary. If the child is dead, the remainder of the de-

livery may be left to nature, but if it is alive, extraction may be done gently.

Perforation of the placenta may occasionally be necessary before the bag can be introduced, but a rather better plan is to loosen it gently at the side and reach the sac through this opening. Cragin, the former chief of the Sloan Maternity, always advised the extraovular application of the bag, but few authorities agree with him, and I have little personal knowledge of this technique. Traction on the stem by means of a one or two pound weight may hasten dilatation. An important consideration is the size of the bag. Furious bleeding may follow its expulsion, and the largest size should therefore always be used, so that dilatation will be complete when it is expelled, and delivery may be effected at once, if necessary.

I might add that when the physician is obliged to work in the home, with no equipment and unskilled assistance, the vaginal pack followed by Braxton Hicks bipolar version probably offers the greatest margin of safety for the mother, no matter what the type of previa or the stage of pregnancy. In these days, however, of many institutions and easy transportation, such an emergency should rarely arise.

Forcible dilatation of the cervix carries with it a mortality so high that it cannot warrant our serious consideration. The case for Cesarean section, however, is rather different. It has a definite, if limited, field in the management of placenta previa, particularly of the central type, in primiparae advanced in years, with rigid soft parts, providing certain conditions can be met. The child must be viable and in good condition, and infection must be absent, at least so far as its introduction by vaginal examinations and other manipulations is concerned. Such conditions are not often fulfilled even in private practice, and in hospital practice the field is still further limited, for the majority of patients are admitted long after the initial bleeding, and after unwise examinations and hastily applied packs have made infection a contingency to be dreaded. Vaginal section, to my mind, is never indicated. The incision must be through the most vascular part of the uterus, and hemorrhage obscures the field of operation and can be controlled only with exceeding difficulty.

Even under favorable circumstances the fetal mortality in placenta previa is so high that the mother's safety should always be the first consideration. It is poor obstetric judgment to subject her to the risks of expectant treatment before the period of viability, or to the risks of Cesarean section, except under such conditions as I have outlined, for the sake of a child whose chances are at best dubious. I am aware that large series of cases have been reported in which Cesarean section has been done as a routine with excellent results, but I would call to your atention that individual men are reporting these results from their individual practice, and what the skilled individual operator accomplishes in selected cases must not be compared with what the average man can hope to achieve. Moreover, as Williams points out, no matter what the results of Cesarean section for placenta previa may be in the hands of the highly trained surgeon, its routine performance is not good obstetrics.

That the results in series of unselected cases are not brilliant is evident on every side. In a recent study, for instance, by the New Orleans Gynecological and Obstetrical Society of the two hundred ninety-one sections done in New Orleans hospitals during the last six years, thirty-three placenta previas are reported. The maternal mortality was three, rather less than 10 per cent, which is not a bad showing for Cesarean section done by many surgeons in unselected cases, though it is a very poor one if compared with the results in a similar series of cases treated by more conservative measures. But fifteen babies were lost, a fetal mortality of something over 45 per cent, which certainly is no argument for the routine performance of Cesarean section for the sake of the child. In general,

the advocates of radical measures are condemned by their own poor results, and I have been interested to note, on my own service at Charity Hospital, that our good results follow conservative measures and our deaths and infections follow a departure from them too uniformly for the outcome to be attributed only to chance.

Premature separation of the normallly implanted placenta, or abruptio placentae, is really, as DeLee puts it, an abortion at or near term, and the problem is somewhat different from that which placenta previa presents. The initial symptoms are usually such as to presage the gravity of the condition, violent pain, emesis, faintness, and marked shock. Concealed hemorrhage is decidedly more serious than the external variety, though naturally the former is always a precursor of the latter. The history is significant, vaginal examination demonstrates the absence of a placenta previa, and in from a third to a half of all cases abdominal palpation reveals the peculiar board-like consistency of the uterus which is pathognomonic. The fetal heart sounds are either faint or absent, and the fetal outlines, due to the effusion of blood, are usually obscure. The blood picture shows a marked and progressive anemia, which is sometimes out of all proportion to the external evidence of blood loss.

The degree of hemorrhage naturally depends upon the degree of separation, but because the accident is always a potential catastrophe, delay is never justified. As long as the child remains in the uterus contraction cannot occur, the sinuses remain open, and hemorrhage will continue, and the problem, therefore, is how best to effect delivery. As in placenta previa, this depends largely upon the stage of the pregnancy and the degree of the hemorrhage.

If the separation occurs during active labor, when dilatation is almost or entirely complete, delivery should be promptly effected by the most convenient means. If labor has not begun, puncture of the membranes, the application of a firm vaginal pack, as in placenta previa, and of a tight abdominal binder will usually produce active contractions and control the hemorrhage until delivery can be completed by version and extraction. It is well, in addition, to give small doses of pituitrin, three to five minims, every half hour until the pains are strong and regular. These measures are usually all that are necessary in the milder cases, which, fortunately, are in the majority.

When the bleeding is severe, more active measures must be employed. Since practically all of the babies are lost, only the mother need be considered, and her own condition should be the criterion upon which treatment is based. If the cervix is rigid, as in primiparae, in whom according to Williams the condition occurs most often, vaginal Cesarean section offers a ready mode of delivery, version and extraction being usually easily accomplished after the cervix has been incised. If, however, the hemorrhage is of the concealed type, and there is reason to believe that the uterine musculature has been affected, abdominal Cesarean section is best, since it permits immediate hysterectomy if contraction fails to occur promptly after the child has been extracted.

In both placenta previa and premature separation of the placenta postpartum hemorrhage may be a dangerous complication of the third stage of labor. In placenta previa, if the hemorrhage continues after the child has been delivered, the placenta should be removed manually—a dangerous procedure, I admit, but in this case the lesser of the two evils—and the cavity thoroughly packed with iodoform gauze. The cervix should also be inspected for possible tears, and repair should be done promptly. In abruptio placentae similar measures should be employed in the face of continued hemorrhage, but if there is not a prompt cessation, laparotomy and hysterectomy should be done without further delay. Temporizing measures are not warranted in the face of possible hemorrhagic changes in the uterine musculature, and the results of hys-

terectomy are not so good after packing and similar measures as when it is a primary procedure. Even when the third stage is uneventful, in both conditions the patient should be carefully watched for several hours afterwards.

Every effort should also be made to replace the blood which has been lost and which may be lost. A donor should be secured and should be kept at hand until the danger is absolutely over, for moderate bleeding before delivery is no guarantee that the blood loss of the third stage will not be so serious as to threaten life. I do not advocate transfusion, however, until labor is ended and the portal of exit is closed to further losses. Either hypodermoclysis or infusion may be used beforehand, to combat shock, and to dilute, as it were, the blood which is being lost.

CONCLUSIONS.

It might be well to emphasize the following points in the treatment of placenta previa and premature separation of the placenta:

1. Both are serious and potentially tragic complications of late pregnancy, and the reduction of their appalling mortality depends not upon prophylaxis but upon promptness of diagnosis and treatment.

2. In both conditions the child should be the lesser consideration, since the fetal mortality, even under favorable circumstances, is high in placenta previa, and approaches 100 per cent in abruptio placentae.

3. Prompt termination of the pregnancy should be the rule in both conditons, but in neither is accouchement forcé warranted. Placenta previa is best managed by puncture of the membranes, a firm vaginal pack, bipolar version, or the bag, according to the period of viability, the stage of dilatation, and the circumstances under which one must work. The bag is beyond question the most generally satisfactory method after viability. Cesarean section is justified only when certain definite conditions can be met. In abruptio placentae, however, it is frequently warranted, and hysterectomy is also justified if the hemorrhage is not promptly checked after delivery. In the milder cases puncture of the membranes, the vaginal pack, the abdominal binder, and small doses of pituitrin usually give satisfactory results.

4. In both conditions the third stage of labor may give rise to severe hemorrhage, and energetic measures may be necessary to control it.

5. Transfusion should be resorted to when the blood loss is at all serious, and other adjuvant measures should be employed as indicated.

6. Puerperal sepsis is a frequent complication of both conditions, and the most rigid asepsis is therefore to be employed throughout.

DISCUSSION.

Dr. A. Street (Vicksburg): I enjoyed Dr. Miller's paper very much. There is one question I want to ask him. We all realize that puerperal sepsis, as a rule, enters the body through injury to the cervix. Now, in a case that has had considerable trauma before being admitted to the hospital and you have reason to suspect a probable puerperal sepsis, I should like to know Dr. Miller's opinion as to whether, provided you can get away with a hysterectomy, the chances of sepsis would be less after the hysterectomy than they would with the uterus in.

Dr. J. W. Barksdale (Jackson): I enjoyed Dr. Miller's paper both because of his scientific work and particularly because of the conservative note he has struck. There has been much discussion here in Jackson as to whether Cesarean section is indicated or not indicated. Dr. Miller has laid down certain conditions under which it should be done and has struck a conservative note, and I want to commend him.

Dr. C. Jeff Miller (closing): Dr. Street's inquiry brings up a point which has long been a source of contention in medical societies and in the literature. Hysterectomy might be indicated in some of these cases, but it is a question as to whether so radical an operation ought to be performed simply on the chance that the patient might develop sepsis. It seems too high a price to pay. Very often we see patients whom we consider frankly infected, and yet they make uneventful recoveries. Moreover, we have no way of know-

ing, granted sepsis will occur, that the hysterectomy will be done in time. The speed with which bacteria travel is well known, and all our surgery may be in vain. For my own part, I am of the number of those who condemn hysterectomy under such circumstances.

I agree with Dr. Barksdale that Cesarean section has a very limited field in placenta previa. There are undoubtedly cases in which it is the proper method of treatment, but it certainly should not be routine. In premature separation of the placenta, on the other hand, the situation is different, and often the uterine muscle is so badly damaged that this operation is truly conservative.

I might say, in closing, that the introduction of the low Cesarean operation has definitely widened the indications for this procedure, and while I am by no means an advocate of its promiscuous use on indefinite indications, I am certainly willing to perform it by this technique in circumstances in which, a few years ago, I should have absolutely refused to consider it.

THE INFLUENCE OF HOSPITALIZATION ON THE MENTALLY ILL.*

M. S. FREIMAN, M. D.,

JACKSON, LA.

The state hospital first came into existence in this country about a century ago, and it owed its inception to the growing consciousness, on the part of public spirited and humanitarian individuals, of the inadequacy of the county system then in vogue. In the beginning, the hospital was nothing but a large boarding house, wherein lived all kinds of people suffering from a variety of mental illness, but all of whom had one trait in common: they were incapable of leading an independent social existence. At this stage, the function of the hospital was to feed and clothe the inmates, to treat them as kindly as possible, and to keep them confined within its walls. With the years, and with the growing interest in mental disease, various developments occurred, all of which resulted in improved methods of caring for and treating the mentally ill. However, all these methods were, in the last analysis, unsatfactory: they aimed at alleviating symptoms, but they did not touch the mental disease itself. In recent years, a clear understanding of the causes and nature of mental disease has completely revolutionized our treatment. A psychosis is the result of the conflict between an inferior individual and an environment which he will not or cannot accept. To understand the psychosis, we must have a clear concept of both the individual and his environment, and in order to effect a cure, we must be able to adjust the individual to his environment. Psychotherapy, therefore, aims directly at the cause of the mental upset; all other methods merely relieve symptoms, the presence of which interfere with the application of psychic treatment.

All of the remedial measures at our disposal can be classified under the following heads:

1. General Medical Treatment.
2. Physiotherapy.
3. Occupational Therapy
4. Recreational Therapy.
5. Psychotherapy.

In the treatment of mental disease, the same general principles of therapeutics prevail as in other branches of medicine. The diet, hygiene, and sanitation of the patients must be regulated; periodic examinations to discover any physical ailments must be performed. If present, these physical disabilities should be removed, for the highest mental integration can only be obtained on a sound physical basis.

Drugs do not occupy a large place in our armamentarium; the disease itself can be attacked directly by drugs only in cerebrolues and epilepsy; practically the only other drugs used are the hypnotics and sedatives, and these only when other methods have failed to achieve the desired effect.

The introduction of hydro-therapy revolutionized the treatment of the various

*Read before Louisiana State Medical Society, New Orleans, Aril 26-28, 1927.

excitements. Whereas formerly mechanical or chemical restraint were almost universally employed, today the use of these equally undesirable measures has been all but abandoned. The wet pack and the warm continuous bath are both employed; the latter is more efficacious in the more acute types of excitement, while the wet pack usually suffices to quiet the noisy and mildly disturbed patient.

Physiotherapy is also employed in the treatment of depression, and in some toxic states. The electric bath, producing profuse sweating, followed by the stimulating effects of the needle shower and manual massage, is of great benefit in a toxic condition such as chronic alcoholism; and there is nothing more soothing and restful to the depressed individual than a warm bath followed by gentle massage, given preferably at bedtime.

Perhaps under physiotherapy we should include such an innovation as beauty parlors for the women patients, although the results therefrom are due almost entirely to the psychic effects of the treatment. Besides improving the personal appearance of the female population, we stimulate an interest in the individual patient in her own appearance; we preserve the personality of the patient and thereby prevent or retard the onset of deterioration.

Occupational therapy, which originated years ago, as a humanitarian effort to aid the patients while away otherwise idle hours, has since developed into a position of prime importance in mental therapeutics. Any form of work which directs the attention of the patient from his morbid ideas and false sensory perceptions may be regarded as diversional occupation. The varieties of work are myriad, ranging from utmost simplicity to technical exaction; there is an occupation suitable for every taste and capacity, and the form of work assigned should be consistent with the therapeutic indication in each individual case.

Time will not permit us to go into details concerning the various employments; we should mention, however, farming and gardening, which have proven to be most popular with all classes of patients. Not alone do they offer the patient diversion, but they are also a most healthful kind of labor, inasmuch as they keep him out in the open, and their economic value is a factor of increasing importance.

Recreational therapy, like the above, has as its object the stimulation of the patient's mind into a field more closely resembling the normal. Occupation alone will soon pall; it is only when work and play are intelligently combined that the patient derives the greatest benefit from each.

The amusements range from reading, which occupies the individual, through cards and other games, which interest a small group, to such amusements as dances, theatrical performances, moving pictures, etc.

The effects of the combined occupational and recreational therapy may be summarized as follows:

1. They diminish the frequency of hallucinations and delusions by absorbing the attention of the patient in reality.

2. They retard the regressive process of dementia by renewing the patient's interest in reality.

3. They enable the patient to get into closer contact with his fellows, and thereby give him a personal interest in their welfare.

4. Occupational therapy may provide a vocational training which may enable the patient to take up a more suitable form of occupation, after being discharged from the hospital.

After all, all of the methods described have as their aim the clearing up of a symptom or a group of symptoms; whatever curative value they possess, they owe to the effect of their use on the patient's psyche.

As mentioned before, the psychosis is the result in most cases of a faulty individual-society relationship, and before psychotherapy can be begun, the part played by each of these components must be determined. The knowledge of the environment is obtained from data given by the patient, his relatives and friends; in addition, in those cases coming from New Orleans, we have the information obtained by a social service worker employed for that purpose. The mental make-up of the individual is determined by combining the information concerning his past life with the insight we get into his personality by studying him while he is in our care.

With the knowledge thus obtained, we are ready to inquire into the meaning of the various symptoms of the psychosis. Delusions, hallucinations, peculiar attitudes, mannerisms, etc., all have a reason for being; if we can interpret them correctly, we are in a position to aid the patient, by means of suggestion and re-education, to overcome them; on the other hand, if we fail to understand the mental mechanism behind the psychosis, curing the patient is out of the question, no matter how much we can improve his condition by other means.

Let us now see what the effect of the treatment as outlined has on some of the psychoses we more frequently meet.

Considering the senile psychoses, the presenile group of Alzheimer, and the large group of arteriosclerotics, institutionalization has no effect whatever, as far as the course of the disease is concerned. These patients usually arrive in a deteriorated condition and remain until a stroke or some intercurrent infection carries them off. A simple diet, hygienic surroundings, and symptomatic treatment is all that can be done for them.

Until quite recently an equally unpromising future was predicted for those individuals suffering from cerebral-spinal lues and paresis. Two to five years was the average duration of life after admission, and the course of the disease was one of progressive deterioration interrupted with an occasional intermission. Today the outlook of these unfortunates is far more favorable, due to two factors:

First: The earlier diagnosis of these conditions by means of the various spinal fluid tests, and secondly, the institution of more improved methods of treatment.

There are two methods of attack that are being widely used at the present time, both of which are yielding splendid results. The first is the treatment of spinal lues by the inoculation with tertian malaria, a method devised years ago by Von Jauregg, forgotten for a while but again brought into prominence. The second and more conservative method consists in the intravenous injection of a new arsenical preparation, trysparsamid, given in three gram doses at weekly intervals until a course of ten or twelve have been taken. The patient is then allowed to rest for several months, receiving mixed treatment in the interval. If, at the end of that time the results warrant it, he is given another course of treatment.

The literature abounds with articles on the subject, and most of the reports are very encouraging indeed. We have had experience only with tryparsamid, and our results tally with those of most other observers, in that we believe we have benefited a great many of the patients so treated; in a few such marked remissions were obtained that we were able to furlough these patients and some are still on the outside, under supervision, of course. How long these remissions will last is problematical. Some observers have reported cases that have been out over five years and are still doing well. At any rate, in the past few years, great strides have been made in treating this dread disease; and with the amount of research work now being done, directed towards the same end, we cannot help but feel that the future is even more promising.

Epilepsy has been since Biblical times one of the mysteries and problems of medicine, and remains so to this day. It is true that by the use of luminal, bromids and other hypnotics, we can decrease the frequency and severity of the seizures, or even abolish them altogether, but by so doing, we do not necessarily affect the epileptic constitution which is behind the convulsions, nor can we always prevent the gradual deterioration ending in profound dementia. Some mild cases undoubtedly recover, others can be arrested, and in some treatment seems to have no effect whatsoever. Treatment consists in the proper administration of luminal, in the provision of a low protein, ketogenic diet, and in training the patient in some form of healthy occupaton, preferably outdoor, in which he can interest himself and at the same time receive the benefits of light physical and mental work

For the mentally deficient, with or without psychosis, the treatment is purely educational. The lower grades of defectives can be trained to be of cleanly habits, to dress and undress themselves, and perhaps to do some useful work. The feebleminded can be trained in some occupation, and under favorable circumstances, may make their way in simple social surroundings.

Paranoia and the allied paranoid states are peculiarly difficult to treat, and many of these cases spend their lives in an institution. Psychotherapy offers the only hope for cure, and this is notoriously unsatisfactory in dealing with these conditions. Most of the paranoiacs are great nuisances or potentially dangerous on the outside, but when confined, they are quite harmless and make very good adjustments.

The treatment of the psychoses associated with somatic diseases is the treatment of the underlying disease, and the prognosis varies accordingly.

The only toxic psychosis we see at all frequently is that due to alcohol, and this only in chronic forms. These cases usually respond very well to ordinary medical treatment plus physiotherapy; as long as they are kept away from alcohol, they do splendidly; but when furloughed, they unfortunately often return to their former habits, with the result that a recurrence of their condition causes them to be returned to the hospital.

The prognosis of the manic-depressive group is good for the attack, as over 90 per cent of these individuals will recover, but the chances for ultimate recovery are slim, as most of the patients will have one or more subsequent attacks. The removal of the individual from the environment with which he was in conflict, will in itself often cause a marked improvement in his condition. The treatment is purely symptomatic, as outlined above; the judicious use of hydro-therapy, in conjunction with occupational and recreational therapy, will in most cases bring about an apparent cure in from a few weeks to a few months.

When the patient has reached this stage we should determine, if we can, the conditions which led to the breakdown, and appropriate steps should be taken when the patient is furloughed to see that these same conditions no longer prevail. If they are still present, the patient should be removed from that environment, or if they are inevitable, he should be taught how to adjust himself to them.

Perhaps in no other group of cases has treatment achieved such gratifying results as in the great group of schizophrenics, who form so large a part of our permanent population. Formerly regarded as incurable, neglected, and left to their own devices, it is not surprising that they gradually and inevitably deteriorated. Today, we do not find nearly as many of the noisy, destructive, untidy type as formerly, and those that we have are either old patients or those admitted in a deteriorated state. The supreme remedy in these cases is work; under the influence of hospital surroundings, occupational and recreational therapy, these cases make excellent ad-

justments and get along comfortably for years. Others respond sufficiently to psychotherapy to justify a trial on the outside, and provided no new problems arise, they can lead an independent social existence indefinitely.

The effect of the hospital on the patient should not end with his discharge. We have of necessity to deal with inferior individuals, and no matter how well they respond to treatment and advice within the hospital, problems will naturally arise on the outside with which the patient will find himself inadequate to deal. He will react to such a situation as one might expect—by lapsing into his former state.

In order to help such patients re-establish and readjust themselves, we have recently started a Clinic, held each month at the Hospital for Mental Diseases. To this Clinic we invite the furloughed patients who live in New Orleans and vicinity, and each is asked to bring, if possible, some member of his family. Both are then questioned by a physician from the hospital, and the kind of adjustment that the patient has made is determined; if he has not been getting along well, the reasons therefor must be investigated. In quite a few cases the trouble lies in the attitude of the family towards the patient, and by educating the family, the difficulties of the patient can be smoothed over. In other cases, the environment is all that can be asked and still the individual cannot get along; in these cases, the failure is inherent in him, he is incapable of leading a social existence and an early return to the institution is advised.

By means of the Clinic, we are thus able to keep in closer touch with our furloughed patients; by means of the personal contact we have with them, we hope to be able to send the patients out sooner and keep them out longer; and in case they cannot adjust on the outside, we will be aware of that fact earlier, and hence can readmit them before deterioration has sent in.

DISCUSSION

Dr. C. D. Miller (Jackson): Dr. Freiman has spoken of the medical treatment of these cases. This is very important provided he includes in this the surgical treatment as well. I have seen quite a number of psychoses that were produced by some somatic condition. Under proper treatment these cases were restored physically and their mental condition approached normal. Again I have seen cases that were due to some foci of infection and by proper surgical procedure these cases have been restored.

As to the use of tryparsamid, Dr. Freiman did not mention that in a number of these cases, in addition to getting remission, we get conduct improvement. This is very noticeable in quite a number of cases in which we do not get the remission.

As the largest number of our cases that are admitted to the hospital are not amenable to treatment by drugs, we have to rely on other forms of treatment, mentioned by Dr. Freiman, such as occupational, recreational, etc. In the cases that have to be treated this way, the result is largely obtained through discovering just what conflict is going on within this individual and then treat them accordingly.

The occupation must be pleasant and it must conform in some measure to a former occupation so that the individual is not thrown into an entirely new environment.

As regards recreation, recently we gave a play at the hospital in which only patients of the hospital took part. Out of the number we had three patients from our most disturbed ward. These patients took long parts in the program. They were able to maintain clearness of thought throughout the entire play and had perfect control over themselves for long periods.

With the treatment along the lines mentioned by Dr. Freiman, we do not say that we can cure deterioration. After the patient has deteriorated, it is impossible then to bring them back to where they were normally. But the different forms of occupation, recreation and suitable diversion certainly can prevent further deterioration. The simple praecox will work out his own salvation. The cataphrenic will have remissions, the hebephrenic, if left alone, will go down to utter uselessness. So it is in the class of the schizophrenic that we see the greatest results in this line of treatment. We can maintain them at a certain mental level indefinitely and they are not only able to appreciate conditions about them but they are self-supporting in a large number of cases.

I was impressed with Dr. Freiman's idea of following up the patients after they leave the hos-

pital. With a very little advice to the families and a little talk to the patients to help them overcome their difficulties that naturally arise in their environment on the outside, we are able to keep them away from the hospital indefinitely. And several of the social service workers have found a large percentage of patients on the outside of institutions are not only self-supporting but they are making a livelihood for themselves and their families and accumulating a little money in the bank.

Dr. C. S. Holbrook (New Orleans): I feel that we should listen with much interest to Dr. Freiman's paper. He comes from our largest institution for the insane, for the care of the mentally afflicted, an institution that takes care of about 2400 patients at the present time.

I have had the pleasure of being both on the staff of the institution and doing the same type of work outside and I know that many of the things that Dr. Freiman has brought out are quite true.

There is one thing that I wanted to stress, however, about the recovery of the patient. Often the recovery of the patient depends upon how promptly and thoroughly he is taken out of the environment that has given trouble. The earlier a psychotic person is treated as a sick patient, the earlier he is sent to the institution that is going to take care of him, the better chance has he to recover. There is no more harmful attitude that I know of in handling the psychopathic individual than to keep him at home, lock him up, tie his hands, fill him full of drugs, finally put him in jail and lastly send him to the institution handcuffed and tied. If there is any one thing that will keep these patients from getting well, it is such treatment. No matter how fully equipped the institution is and how large and efficient the staff, if a patient has been handled in this manner there is little chance of a speedy recovery, while if the psychosis is recognized early and the patient sent to a properly equipped institution, then the chances are by far better.

The treatment of the mentally afflicted is not a hopeless proposition at all. Even in the institutions like the East Louisiana Hospital, where a large number of chronic patients is sent, there is still a fair rate of recovery. I don't know just what the figures are now, but it is probably thirty-five to forty per cent recovery. If cases were sent earlier then the percentage would increase.

This is the one thing I wish to stress to this audience, that we do recognize these patients earlier, cease to treat them at home, send them off with the nurse or with the physician to one of our institutions.

Dr. Freiman (closing): I just want to thank Dr. Miller and Dr. Holbrook for their kind discussions.

THE TREATMENT OF HIGH BLOOD PRESSURE BY A NEW ORIGINAL METHOD.*

ADOLPH HENRIQUES, M. D.,

NEW ORLEANS.

The causes of high blood pressure are not definitely known. The probable causes are infectious, toxic or psychic, or a combination of these.

An instrument of precision, the sphygmomanometer, is required to determine the height of both systolic and diastolic pressure, both of which should be taken. Instruments of precision are essential to modern medicine for those physicians who are willing to subjugate the fallibility and limitations of their unaided senses to the welfare of their patients.

Where a variation of 5 or more millimeters exists on three successive readings, the author has found it more reliable to

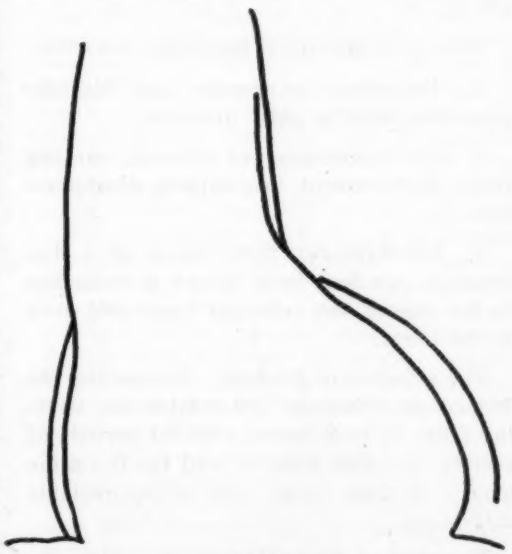

CHART 1.

*Read before the Orleans Parish Medical Society, May 9, 1927.

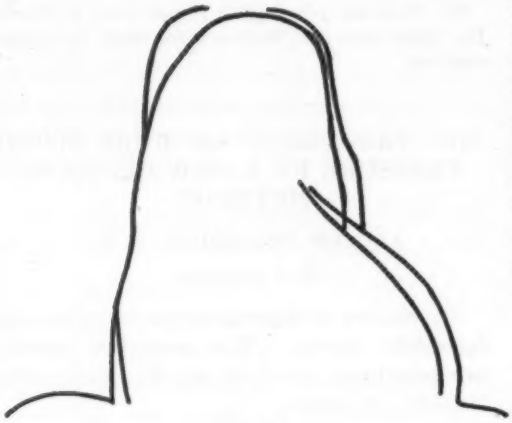

CHART 2.

take an average of six readings of both pressures at the same visit. If this is done, at times variations as great as 40 millimeters will be found to exist in the systolic pressure. A single reading is absurd.

The author's method consists of the application of radium to the basal ganglia of the brain. The effects are attributed to the action upon the vasomotor system and the general metabolism. Other effects are being studied. The method is not a cure-all.

The following effects have been observed:

1. Reduction in systolic and diastolic pressures, also in pulse pressure.

2. The symptoms are relieved, varying from improvement to complete disappearance.

3. Roentgen-ray films taken at a distance of six feet have shown a reduction in the size of the enlarged heart and even of the aorta.

The effects are gradual. Comparing the immediate effects of 209 treatments, varying from ½ to 2 hours, with 50 periods of rest in the same posture, and for the same length of time, there was no appreciable difference.

The method does not prevent sudden elevations of pressure, but when a lower level is effected for any patient, a rise from this lowered level is assuredly without the attendant danger which exists when a sudden rise takes place from a higher level. The treatment does not offer a substitute for the philosophy of self-restraint and the mastery of self. Patients should be kept under observation for a long time in order to maintain a lowered level. Focal infections should be looked for and removed, if existent, at the beginning of treatment. Some of the cases had undergone prolonged rest treatment, without results.

TECHNIC.

At present, each case requires individual study. While the dosage employed is without injury to the overlying structures, an optimum dosage is being sought. Fifty milligrammes of radium, screened by two millimeters of brass, were applied for periods ranging from ½ to 2 hours, at a distance of 1 inch from the skin. The point of application was just above and in front of the external auditory meatus.

A roentgen-ray film of the heart and aorta, made at a distance of at least six feet, yields the most accurate outlines of these organs obtainable by present diagnostic means. It is impersonal and forms a permanent record with which later comparisons may be made for the purpose of determining changes in size as a result of disease or as a result of any treatment instituted.

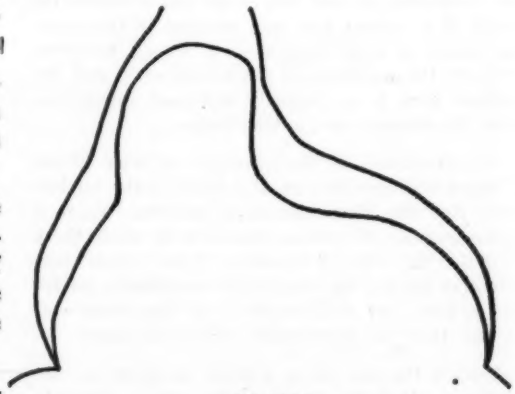

CHART 3.

Charts 1, 2, and 3 show reduction in heart size, and 2 and 3 show a reduction in the width of the aortic shadow, as a result of the treatment.

TABLE I.

Case	1	2	3	4	5	6	7
Pressure	200	185.92	274.146	171.97	230.127	182.90	160.72
1 week			235.127	135.82	202.119	144.86	126.62
1 month	152		208.121	141.90	197.122	156.90	120.66
2 months			209.124	139.91	203.107	150.83	127.66
3 months		145.75	198.117	143.87	180.115	155.80	120.61
4 months	155		199.116		185.110	154.80	
5 months			205.121		182.119	155.78	
6 months			195.112		195.112	155.81	
7 months			174.107			144.81	
9 months							141.71
12 months	140.78						
17 months		150.80					
24 months*		172.83					
30 months	153.70						
34 months	143.68	132.63					

* 5 days later 143.68; case had not been treated for 13 months.

Case	8	9	10	11	12
Pressure	184.110	192.92	194.109	178.116	205.108
1 week	146.90	168.90	146.94	141.93	183.96
1 month	174.96	158.95	147.92		
2 months	150.92	152.90	158.95	140.92	

Table I shows the pressures before treatment and the reduction obtained.

DISCUSSION.

Dr. A. B. Ledbetter: We have all been taught to seek the cause of disease. It is my belief that high blood pressure is the symptom of some other disease. However, it is our duty to endeavor to discover the cause. Of course there are certain conditions that produce high blood plessure that we are at a loss to account for, practically 95 per cent of all blood pressure running from 180 to 200 systolic and 100 to 120 diastolic are due to some pathological condition. At least 75 per cent of blood pressure running from 180 to 200 systolic and from 110 to 120 diastolic are caused from interstitial nephritis. In a great number of these cases, the urine contains no albumen or casts. We should be exceedingly careful in treating cases of high blood pressure with drugs. We all know that the nitrites reduce blood pressure, however, they often do a great deal of harm. High blood pressure is nature's compensation and we should be very careful in administering drugs to reduce it. It is my belief that we get the best results from complete rest and diet. However, in very high blood pressure, we are justified in using the iodids cautiously in order to avoid cerebral hemorrhage.

I would like to ask Dr. Henriques if he made any diagnosis, that is the cause of the high blood pressure in the case under his observation?

Dr. I. I. Lemann: The theory of Dr. Henriques and his manner of reducing blood pressure is very interesting. I would like to know, however, the scientific basis for it. Why did he think that such treatment of the skull would bring about reduction of the blood pressure? As to what Dr. Ledbetter has said, I would remark that while it is true that the greater number of cases of high blood pressure represent early stages of nephritis, there still remains a certain group of hypertensions whose etiology we do not as yet know. If we are to look upon the high blood pressure as a compensatory action on the part of nature, we must still be concerned in curbing the overzealousness of nature. Patients with high blood presure often do not die from kidney trouble—that is to say from the failure of the kidneys to function. Some die of cerebral hemorrhage or of coronary thrombosis; some are hemiplegic for a long time without evidence of great kidney impairment. Other patients suffer the pains of angina pectoris following upon long-continued high blood pressure and some of these again have heart failure depending upon degenerate conditions in the heart. These patients represent many conditions that we cannot blame primarily upon the kidneys although they may lie at the bottom of it. I believe, therefore, that we are justified in trying, as Dr. Henriques has done, to modify the hypertension, and such

an attempt may well represent a real scientific method. I understand that Dr. Henriques does not claim that his method would cure the underlying condition but that it is merely an attempt to modify the pathological course of the disease. I must say, however, that I am somewhat skeptical of any treatment unless I can understand something of the underlying basic theory.

Dr. Charles Chassaignac: I wish Dr. Henriques, when closing the discussion, would tell us whether any study was made regarding the cause of the high blood pressure. I can realize that at times, just like we do when we have elevation of temperature, it is very important to know first the cause of that elevation, yet, in the meantime, make an attempt to reduce the fever. It would be interesting and I think it would help us in the study if we could know something as to what was ascertained as the cause of these various cases of hypertension.

Dr. H. E. Bernadas: I would like to ask the essayist to tell us, if he can, how he arrived at the location? Why he selected a certain spot?

Dr. Henriques: in answer to

Dr. Ledbetter—Rest and diet have proven inadequate in the treatment of this condition. The mortality is 135 per cent greater than in cases of normal pressure. By the author's method, the blood pressure is not only lowered but the patients look and feel better. High blood pressure is an abnormal condition.

Dr. Bernadas—The location on the spot indicated in the technic, was the result of experimental work along other lines. Among other things, reduction of high blood pressure was noted and at Dr. Bass' suggestion this phase of the effect was further developed. The patients did not give up their usual vocation. One of these patients has been cooking and washing for her family of five.

Dr. Lemann—There is no basic theory for the method. The doctor is correct and well posted when he states that there are various causes, besides nephritis, for high blood pressure. These causes are not definitely known.

NEW HOSPITAL FOR CRIPPLED CHILDREN, NEW JERSEY—A citizen of New Jersey has recently endowed for $1,000,000 a new home and hospital for crippled children to be built in Shrewsbury Township as a memorial to his son, and to be known as the Raleigh Fitkin Memorial Institution. It is to educate the children as well as to improve their physical condition. A self-sustaining farm will be operated in connection with it.—U. S. Children's Bureau Bulletin.

TREATMENT OF MALUNIONS OF THE FEMUR.*

MUIR BRADBURN, M. D.

NEW ORLEANS.

The subject of femoral fractures has always interested me. The first big problem I had after I started practice was a fracture of the femur. I treated this case by the methods then advocated and which I had learned during my internship. I realized then how inadequate the ordinary Buck's extension and plaster cast were in overcoming shortening and posterior displacements. At that time I found a study of the end results obtained in about 242 femoral shaft fractures. These were treated by the method above referred to with a 90 per cent permanent disability in laborers of that group. I resorted to open reductions with much more gratifying results until 1918 when I first appreciated the value of skeletal traction. Since then this has been the method of choice in our service; however, the excellent results obtained by Dr. Sherman, who reports a series of 78 fractures of the femur which were treated by open reduction, not one of which is drawing compensation, with but one death and no cases of non-union strongly tempted me to employ his method. I mention these two methods which I think superior to others in preventing the occurrence of malunions.

At the outset I wish to state these facts:

(1) Skeletal traction properly employed will overcome shortening in 100 per cent of cases.

(2) The method advocated in 1921 by the author, viz: an upward pull of ten pounds, will overcome posterior displacement in 100 per cent of recent cases.

It is irritating to be told that the best that can be hoped from skeletal traction is one inch shortening.

Briefly, then, our method of preventing malunions is as follows:

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*Read before Louisiana State Medical Society, New Orleans, April 26-28, 1927.

(1) Skeletal traction (our preference being by means of a solid Steinmann pin just above the condyles) employing 20 to 25 pounds for the first 24-48 hours until shortening has been overcome as shown by the roentgenogram taken by means of the portable machine; the traction is then reduced to about 16 pounds and in the 4th or 5th week to about 12 pounds.

(2) As soon as the shortening has been overcome, posterior displacement is corrected by means of an upward pull of 10 pounds, in the average adult case; when this has been corrected the pull is reduced to about 7 pounds; if there is lateral displacement the pull is exerted laterally as well as upward.

The above statements refer to patients from puberty to 50 or 60 years of age; before this period we employ either plaster casts or Russell's or so-called Australian method. After 50 years of age we usually employ Russell's method.

Malunions are difficult problems and various methods have been suggested for their correction. Putti has advocated the use of his osteoton; this has not been available nor have we found it necessary to attempt to procure it. His paper, however, adduced some interesting discussions.

In these discussions we find the annoying misstatement that with skeletal traction "one seldom obtains a lengthening of more than one-half inch" in cases of malunions with shortening.

The case of A. W. is one in which injury was received 9 months before he came to us. An attempt at open reduction had been made before he was admitted to our service; the length of limb had been sacrificed in order to approximate the ends; infection had occurred, the plate had slipped and further shortening had occurred.

We had an actual separation of bone ends of at least an inch, making in all an extension of about three inches with skeletal traction applied nine months after the accident. Further work was contemplated in this case but the patient did not return to the Hospital as instructed and I have not been able to locate him.

In a series of fourteen cases reported by Magnuson in which reduction by means of the Hawley table and compound pulley was effected at the time of operation there were three temporary foot drops from stretching of the sciatic nerve and one death from shock. This gives an idea of the serious nature of an operation which attempts at one stage to correct the shortening.

Drs. Campbell and Speed reported 10 cases of malunion in which simple osteotomy at the site of union, with resection of enough bone to secure end to end reduction, was done in 8 cases. All obtained solid union, 5 with less than one inch shortening and 3 with more than this amount of shortening. In one case by this method they were able to gain about 2½ inches, but concluded that as a general thing 1½ inch was all that could be safely gained.

In a series of 7 cases of non-union there were two deaths which these authors attributed to too prolonged efforts to overcome excessive shortening. I have quoted the statements of these surgeons of ability to show the dangers of any procedure which attempts to overcome shortening of two or three inches or more at the time of operation; in this small series, a 10 per cent mortality.

We find in reviewing our subject that the method of LeRoy Abbott in treating cases of malunion is very similar to that adopted by us. This author cites the observation of Sir Robert Jones who found that localized tenderness over the callus is definite evidence that the callus is the seat of an active change and that it has not yet reached the stage of complete consolidation. "Recognizing this as a basic principle of treatment" Sir Robert Jones has demonstrated that manipulation under anesthesia would often accomplish refracture.

We believe with Abbott that there is danger of non-union following manipulation in cases in which there is much overlapping as the bone ends "are sclerosed and the medullary canals are completely

closed by bone." He does not regard this danger as a contra-indication to manipulation as caliper extension produces the proper length and "an operation to secure union has been converted from a long and difficult undertaking to a comparatively simple procedure." This author employs 30 pounds traction and is successful in overcoming shortening in 10 to 14 days.

The time necessary for suspension in his cases is about ten weeks after which walking calipers are employed.

Quite independently and receiving our suggestions from war time experience, we believed skeletal traction following mobilization to be the method of choice in handling these cases of malunion with shortening. However, the danger of non-union with its prolongation of the disability should be taken into consideration and in adults it is better to expose the site of fracture and mobilize the bone fragments. We resect the bone ends exposing the medullary canal and apply traction by means of a solid Steinmann pin. We have not used over 25 pounds traction and this for about two or three days, then reducing it to 20 pounds. If at the end of two weeks we should have accomplished satisfactory reduction of the lateral and posterior displacements, as well as overcoming shortening, we should allow the case to remain suspended until union would occur. If, however, the correction of the lateral or posterior displacement is not satisfactory we should not hesitate to reopen the wound and employ internal splinting to hold the fragments together. In such a case the Steinmann pin is allowed to remain and suspension continued, because if there should be any infection it is a comparatively simple procedure to open the wound and employ the Carrel-Dakin method of treatment. The case at the end of four weeks is taken out of suspension when we have used internal splinting and a walking caliper applied. With the latter procedure there is a saving of hospitalization of from two to four weeks.

The case of S. H. illustrates the method above described. He was admitted to our service January 22, 1927. He had three inches shortening and a stiff knee as a result of a fracture of the femur sustained in an automobile accident two months previously. We were interested to know what kind of treatment had given such a poor result. Buck's extension of 10 pounls for 3 weeks, followed by the application of a plaster cast was responsible. On January 29, 1927, after two days preliminary treatment (of two daily baths and shaving of the limb the night before operation) an open mobilization was performed. An incision 12 inches long was made; the bones were chiseled apart; the ends freshened exposing the medulla, and the wound closed with Michel clips. After mobilizing the knee to 40 degrees a solid Steinmann pin was inserted. Traction of 25 pounds was applied. This was reduced to 20 pounds in 72 hours. At the end of ten days we found that posterior displacements persisted. On the fourteenth day we reopened the wound and applied a Lane plate, employing as in the first operation the Lane aseptic technique. The Steinmann pin was allowed to remain and the limb again suspended and immobilized by applying ten pounds to the Steinmann pin. Both operative wounds healed by primary intention. The pin was removed in this case on the 30th day and a walking caliper ordered. There was no shortening. This patient deserted before physiotherapy had accomplished a great deal in mobilization, there being only 35° flexion. However, a letter from him dated April 9, 1927, states that he is able to bend his knee well.

There is one point in the operative treatment of bones that I should like to stress. No fingers should be allowed to enter the wound. All sutures and ligatures should be tied with forceps. I heard this procedure characterized by one clinic at a recent meeting as absurd. I had heard the previous year at a meeting of the same society a report from the same clinic in which they stated that they had to remove the majority of the plates they put in.

We can recall having to remove in eight years only two plates that we had used in the open reduction of simple fractures, and our service is a very active one.*

*Recent experience would prompt us to attempt to obtain lengthening in the malunions of the femur in children by mobilization by the closed method followed by Russel's method of traction (March 13, 1928).

In the cases of malunion in children we must avoid the epiphyseal line by placing the Steinmann pin through the shaft. We believe that whenever possible mobilization in children should be accomplished by the closed rather than by the open method. We do not advocate the application of plates in these cases. The following case of C. W., aged 11 years, came to us six weeks after the accident with shortening, external angulation and outward rotation. Under ether anesthesia the union was mobilized by manipulation; skeletal traction of 11 pounds employed. These skiagraphs show the overcoming of shortening. The danger of non-union is not great in the growing bones of children. We are not greatly concerned if we cannot accomplish any better reduction than in this case, 14 years old, who came to us when callus was already present. We were able to overcome shortening but not the lateral displacement. However, we concluded that he would obtain a good leg and did nothing further. These skiagraphs were taken two years later and examination at this time showed he had 100 per cent function.

CONCLUSION.

I should like to stress the following:

(1) Prevent malunion by employing efficient traction, preferably skeletal traction in the young and middle aged adults.

(2) Operations which attempt to correct great degrees of shortening after malunited femoral fractures are usually attended with great shock and high mortality.

(3) Shortening in malunited cases should be overcome gradually by skeletal traction after mobilization of the fragments effected by the open method in adults with resection of the ends of bones exposing the medullary canal.

(4) There is a tendency to non-union following mobilization by the closed method.

(5) In operations on fractured bones no hands should ever enter the wounds.

(6) If reduction by traction in cases of mal-union is not satisfactory, internal splinting should be employed after shortening has been overcome.

DISCUSSION.

Dr. Paul McIlhenny (New Orleans): Those of us who have had the pleasure and privilege of seeing Dr. Bradburn work in the past ten or twelve years have learned that it is to our advantage to listen attentively to what he has to say, especially in regard to the treatment of fractures.

There are a few of the points that I would like to stress in Dr. Bradburn's paper. Do not attempt to overcome an over-riding, or displacement, or a marked angulation in an old fracture of the femur at one sitting. It is a surgical fact that the sciatic nerve will stretch to a certain extent, possibly an inch. In certain cases you may get damage with one inch stretching, in another case you might not. Where your malposition and union has existed for months and possibly years, you are going to have such terrific shortening and structural changes in your soft parts that it will require considerable stretching to overcome them. Besides nerve injury you may traumatize the ankle or knee have an ulcer, which will necessitate prolongatioon of the treatment.

If, at the time of operation, you find it is necessary to use a Lane plate to hold the bone fragments in apposition, or to bone graft, you should first clean out your medullary canal before attempting any bone approximation. You should then attempt to get as much bone into apposition as possible; a little spicules of bone against a large piece of bone in approximation does not do much good, you have a space between which is unstable; it takes a long graft or plate to secure immobilization. If you are going to plate, only do it after you are sure you cannot hold the parts in any other way; that also applies to bone graft. If you are going to err on the side of a plate, or graft, make an error in favor of a long plate instead of one too short. I do not think anyone should plate or graft a bone unless he can feel that he is a pretty good carpenter. Now, why do these plates have to be taken out? Dr. Bradburn mentions fingers in the wound. Another reason is that the majority of us who put plates in are not good carpenters; we do not know when to stop fastening the plate, we continue turning the screws, until we have reamed out the threads in the bone and the screw becomes loose. As soon as you ream out the threads in the bone the screw becomes a foreign body, necrosis sets in with abscess formation, resulting in removal of the plate to avoid amputation.

Do not keep your cases immobilized too long; if you have on a caliper, take it off, then have the limb massaged and actively move the limb without weight bearing, replacing the caliper for support. Let the patient do the work; passive motion in stiff joints does no good, and if there is no ankylosis we are going to stretch the periarticular structures and do harm. Massage should be begun as soon as the wound is healed; I do not mean just gentle massage, but massage up to the point of almost moving your fracture, and that is the best post-operative treament you can have.

Remember to keep your fingers out of the wound; be sure to have your plate and bone graft long enough, and when you plate, stop turning the screw before you have your screw loose.

Dr. Guy Caldwell (Shreveport, La.): It has not been my pleasure to know Dr. Bradburn or to observe his results. I know, however, from what has been said, that his work is most excellent. It might be of interest to you to see that in the Charity Hospital in Shreveport, working entirely separate from Dr. Bradburn, we have arrived at much the same conclusions that he has presented.

I had occasion to present twenty-five femur cases for 1926 in our work in Shreveport. I have a few of the slides and will present them, first to illustrate the point that skeletal traction is the only hope in certain of these cases—that is, outside of open reduction. (Slide shown.) I believe that skeletal traction is the only thing that will save us from operations which even in good hands have an appreciable element of danger. Therefore we must learn to apply skeletal traction. In so doing we recognize certain difficulties which must be overcome, and we are now working to improve and simplify the method, but we accept the principle.

When I first saw the title of this paper, "Difficult Femurs," I reflected that all femur cases are difficult. Fractured femurs in children give good results almost regardless of the treatment that they get. Fractures of the neck of the femur in old people call for treatment of the patient first and of the fracture second. We may get good results. A fracture of the shaft in the adult is a tremendous problem, economically and surgically, and in these we must arrive at some better procedure.

Dr. Isidore Cohn (New Orleans): I have profited by Dr. Bradburn's paper. There are a few points on which I want to take issue with him.

Dr. Bradburn says he gets 100 per cent results. I do not doubt Dr. Bradburn's ability to get 100 per cent, but 100 per cent is more than most people can get with any one or all methods combined.

Dr. Bradburn says skeletal traction is the only means by which we can get good results. I take issue with him. Dr. Caldwell has called attention to some of the difficulties you might encounter. Dr. Bradburn and Dr. Caldwell can put it on, but the average surgeon will have difficulty to keep from getting into trouble, possibly knee joint infections. We are not all near excellent hospitals, nor provided with necessary skill to do these things. I think in cases of this kind Russel's method of making traction will do for many surgeons in country places where they do not dare put on skeletal traction. I believe we need not go away with the idea that we must use a Steinman pin. I certainly do not want the average surgeon to stick a Steinman pin in my knee. In delayed union cases, non-union cases, why depend on a piece of steel when the osteogenetic function has already been interfered with? If we must do something let us put in a bone graft. We can overcome shortening by other means than skeletal traction and skeletal traction in the hands of some is a dangerous procedure.

Dr. E. Denegre Martin (New Orleans): If you know how to do a thing one way and get results by doing it that way, that is the way to do it. It is all right to get up and say you cannot do it; I know my limitations and do not undertake anything I know is beyond them. If somebody can do it better, that somebody is entitled to the case, but such opinions should be verified by facts, not statements.

I agree with Dr. Bradburn in his results. It is so long since we have taken out a plate in our service I do not believe I would know how to do it. This is due to two facts: first, absolute asepsis, which means more than merely not putting your fingers in the wound, and, second, avoiding trauma as much as possible.

If a loose plate is not due to infection, it is due to bad technic. This has already been stressed by Dr. McIlhenny. You must have your screw hold at the time. If you use a Sherman screw the hole has to be made with a round drill one thirty-second of an inch smaller than the screw and the screw driven with just enough force to fix it. I have given up the Sherman screw and even discussed it with Dr. Sherman himself. I told Dr. Sherman that if he would use a common wood screw he would get better results. In putting on your plate use a common wood screw and drive it through the marrow into

the opposite side of the bone. Drill the hole two-thirds the size of your screw. With the wood screw you have a big bite and it catches in the opposite side; it not only catches, it holds. Whereas, if you put in a Sherman screw you are putting it in on the same side and it is more apt to become loose—it acts as a foreign body. By paying attention to such simple matters I have not had to take out a plate for years.

In nearly all our cases we have been able to overcome the over-riding by traction. Now, you cannot in any other method that I know of, put a sufficient amount of traction on a femur of the character spoken of by Dr. Bradburn. At least thirty pounds weight must be applied and there is no way except with the pin. If properly used, no harm results. In the beginning I did not get the results I do today. Experience is our greatest teacher.

Dr. Muir Bradburn (closing): When I was speaking to the chairman about difficult femurs, I intended to write him and give him the title of my paper, which should have been Malunion of the Femur.

In discussion we have practically covered the subject, but there is one point which has been brought out we did not mention in our paper, viz: non-union. Dr. Cohn brought up the subject of bone graft. In our cases bone grafting was not necessary and probably is not necessary in a majority of non-unions of the femur; malposition and not any disturbance of osteogenetic function, is the most important factor in the production of non-unions of the femur. I did not say it was impossible to obtain good results by any other method than skeletal traction and open reduction, as I have used other methods. (Plates shown.) A case of non-union. Traction was put on until shortening had been overcome (demonstrating). We then plated. (Plate.) A case of non-union; the plate shows there is callus on the distal fragment. Non-union here is due to malposition; a bone graft is unnecessary. Put on traction to overcome shortening plate and you will get union.

I believe with Dr. Caldwell that all femurs are difficult, but we have certain cases which are more difficult than others. (Patient present.) Here we have a two and a half inch shortening and a stiff knee. Ordinary femurs are difficult, these are terrible problems. I feel certain that I can get this limb to the same length as it was before. What we want to do in this case is an open mobilization, section the ends of the bone to expose the medulla and then apply traction. If at the end of two weeks I find that the posterior displacement is not satisfactory (after employing our method for its correction), I shall reopen the wound and apply a steel plate. I wish to repeat that skeletal traction properly applied will overcome shortening in one hundred per cent of cases; you can overcome posterior displacement of the femur in one hundred per cent of recent cases.

The question as to the danger in the use of the Steinman pin was asked. I prefer not to use the pin in patients over sixty years of age or where there is considerable osteoporosis. I had one infection in an adult about 35 years of age. I had to make an incision to drain a pocket, but the infection did not prove to be serious. We have had about 65 shaft fractures and of these we have employed skeletal traction in about 55.

CAUDAL ANESTHESIA IN UROLOGY.*

FRANK J. CHALARON, M. D.,

NEW ORLEANS.

In selecting this title, there is no intention to bring out new facts about a subject so ably covered by many competent authorities, but rather to reiterate the value of a method of anesthesia that finds its broadest field in urology. The names epidural anesthesia, caudal anesthesia, and sacral anesthesia are synonymous and are applied by different authors to the injection of an anesthetic solution through the lower opening of the posterior sacral canal into the space between the spinal dura and the intravertebral periosteum.

This method was originated in 1901 by that brilliant urologist Professor F. Cathelin, who, seeking to avoid the dangers of spinal anesthesia as elaborated by Corning, Quincke and Bier and knowing from Hallion's experiments that the anesthetizing agent (cocain) acted almost exclusively on the rachidian roots and but slightly on the spinal marrow, carried out a series of experiments on dogs by which he proved the correctness of his assump-

*Read before Louisiana State Medical Society, New Orleans, April 26-28, 1927.

tion, *i. e.*, that it was possible to produce deep and superficial anesthesia without penetrating the spinal dura.

Epidural injection as a method of relieving pain was promptly accepted in France and was used successfully in varied conditions, such as sciatica, orchitis, cystitis, tabes and intercostal neuralgia. However, its anesthetic worth in operative urology seems to have been somewhat over-shadowed by its use for the treatment of essential incontinence.

In this country Dudley Tait was the first to make it known; Dent, Valentine and Townsend used it at the Manhattan Hospital for the relief of urinary incontinence, and Labat introduced it at the Mayo Clinic. While Lewis and Bartels commended its use in urology as early as 1916, it is only in the past six years that it has progressively been popularized by the monographs of Scholl (1921), Crowell and Thompson (1922), Davis (1924), Syms (1926), Shaw (1926), Goldstein & McBee (1926), and, again, Davis in 1927.

The worth of a procedure is based on the results obtained by its use. For cystoscopy of the average patient the topical application of an analgesic to the urethral and vesical mucosa is sufficient, but when, because of inflammatory changes the vesical or urethral mucosa becomes hypersensitive, topical analgesia is insufficient and too transient to allow satisfactory cystoscopic manipulation. It is in this class of patients that I found caudal anesthesia of greatest value.

In vesical tuberculosis, if general anesthesia is used, the narcosis must be most profound before complete relaxation of the vesical spasm is obtained. With these patients there frequently co-exists a severe lung involvement which contraindicates such profound narcosis. Again, such deep narcosis frequently affects the kidney function and further damages a diseased organ. With proper caudal anesthesia a complete relaxation, permitting of extensive cystoscopic examination and manipulation, is obtained.

For the cystoscopic implantation of radon seeds to neoplasms, the fulguration of urethral or vesical papillomas, the meatotomy of the urethral orifice and other painful interventions in the bladder, caudal anesthesia is the anesthetic of choice. In external urethrotomy and for rapid dilatation of strictures it is superior to general anesthesia. In perineal prostatectomies it is strongly advocated by Shaw, who reports 100 consecutive perineal prostatectomies done under epidural anesthesia. Davis, who also uses this form of anesthesia, reports 107 consecutive prostatectomies without a death.

I have done two suprapubic prostatectomies, using infiltration anesthesia in conjunction with caudal anesthesia. The prostatic enucleation was painless in both cases and outside of a slight dizziness, due to the lowering of the blood pressure, there were no other disagreeable symptoms.

While using the method for the relief of a patient suffering from a severe cystitis, Cathelin and Albarran noticed that it caused a certain amount of urinary retention. This suggested its use in the treatment of essential incontinence and enuresis. The results obtained in that field of use were so clear cut that it led to its adoption throughout Europe as the best treatment for that aggravating infirmity.

TECHNIQUE.

Position of Patient: The knee-chest, Sims lateral, or just face-down, the pelvis being raised by a pillow. On passing the finger down the sacrum in the median line, a U or V shaped depression is found slightly above the intergluteal fold. This depression marks the lower opening of the sacral canal. After the usual preparation of the skin, (benzin, iodin, alcohol) a wheal is made over the depression with a fine hypodermic needle A 2½ or 3 inch (19 or 20 gauge) nickeloid needle is inserted in the center of the U shaped depression at an angle of 20 degrees until

the ligament is perforated, when the needle is depressed towards the coccyx and driven in to its full length. A 20 cc. syringe loaded with the anesthetic solution is adapted and the piston is slightly withdrawn to make sure that neither a blood vessel nor the dura has been punctured. If no blood or fluid is withdrawn the solution is injected slowly.

Anesthetic Solution: 25 to 35 cc. of 1 per cent solution of either novocain, procain or aposthesine may be used. Shaw has obtained the best results from 15 to 20 cc. of a 3 per cent procain solution. Personally, I have never exceeded 35 cc. of a 1 per cent solution. After the injection, the patient is placed on his back and 10 or 12 minutes are allowed to elapse before any operative procedure is attempted. If a suprapubic prostatectomy is to be done, the site of incision should be infiltrated since caudal anesthesia does not extend sufficiently high to numb the anastomosing branches from the lumbar plexus. Scholls reports but two failures in 150 patients and in both of these cases there was extension of bladder growths to neighboring structures not innervated by the sacral nerves. Laskownicki of Lvow, while praising epidural injection for cystoscopy, denies its value in perineal prostatectomy unless it is previously reinforced by the spinal injection of 4 cc. of 1 per cent novocain. This author's experience conflicts with the findings of most all other operators.

Causes of Failure: First. Malformation or occlusion of the sacral canal, due to bony changes.

Two. Stoutness of patient, making it impossible to feel the opening of the sacral canal.

Three. Inexperience of operator, who does not penetrate the sacral canal, but gives a deep subcutaneous injection (this can be suspected when there is resistance to the flow of the solution or when swelling appears above the site of the injection).

Four. Not enough or too weak a solution.

Five. Not sufficient time allowed to elapse between injection and beginning of operative procedure.

Disadvantages: In highly nervous and apprehensive patients, it is well to precede the caudal analgesia by the injection of a ¼ gr. of morphin. Lowering of systolic blood pressure 15 to 20 points. Marked mental excitement. This symptom is reported by Goldstein and McBee as occurring five times in their series of 518 injections. I have never seen it in any of my patients. Vertigo, nausea, vomiting, with low blood pressure, were noted in one patient who had eaten breakfast an hour before the caudal injection was given.

CONCLUSION.

Caudal anesthesia is devoid of danger and compared to spinal anesthesia is free from the latter's disagreeable sequelae such as headache, paralysis, etc. It is the best anesthetic in perineal prostatectomy and with the addition of infiltration anesthesia it can be successfully used in suprapubic prostatectomy. In enuresis and essential incontinence it has given over 75 per cent of cures. Finally, in the cystoscopy of an inflamed, irritable bladder, whatever the cause, it is superior to and should supersede all other forms of anesthesia.

DISCUSSION

Dr. H. W. E. Walther (New Orleans): For me, personally, caudal anesthesia is in the same class as paravertebral anesthesia in that I have not acquired the technique of how to use it and have been hesitant about experimenting with my private patients. I believe that the difficulties of the technique, for the average man, are sufficient to prevent it from becoming the universal method of anesthetizing your patient either for cystoscopy or perineal work. I believe that caudal is as difficult as the paravertebral. The refinements in just how to introduce your needle to do this work are not as easy as they oftentimes appear on paper or when heard in the meeting hall. Therefore, in those cases where general anesthesia is contra-indicated, I am still using local as advocated by, and according to the technique of, Dr. Carroll W. Allen, It has sufficed me for my

work in urology. I know we have cases where a general anesthetic cannot be employed and therefore some form of blocking or local is imperative. Still I feel that I am getting more satisfactory results with infiltrative novocain anesthesia than I would with the various nerve blocking methods. I am fully aware of the fact that Dr. Chalaron has quoted some very excellent workers in urology in America who have adopted caudal anesthesia for painless surgery. I do not feel, however, in private practice, that we can be guided wholly by statistics when the procedure is one that we are not just ready to accept.

I met a urologist at the Mayo Clinic who told me that he had a patient with tuberculosis of the bladder whom he was going to cystoscpe under caudal and that he wished me to see this case. So I went with the doctor to the hospital. He gave the patient the caudal and told him he was not going to hurt him. When he started to introduce the cystoscope the patient nearly jumped off the table, which was very embarrassing to the patient, to the doctor and to me. That is what happens so often when we have these clinical demonstrations before visitors.

In the Baptist Hospital, where we use oxygen and ethylene, given by trained anesthetists, with Dr. Caine at the head of the service, we get 100 per cent anesthesia and our patients are perfectly satisfied.

Dr. Frank J. Chalaron (closing): I hope I have not led you to believe that I meant all cases of cystoscopy should be done under caudal anesthesia. I do not think this is, or should be, the case, but we have cases where the bladder is painful whether due to papillomata, malignancy or tuberculosis, in which it is indicated.

The technique is not as difficult as one might believe. Cathelin, in his monograph, explains it so clearly that if you follow the anatomical points you can do it. Most men use the ordinary spinal needle, which is too long and may injure the dura; two and a half inches is long enough. Never use a needle over size 19 to 20 gauge; the tendency is to shoot the solution too rapidly and the result is not as good because the solution spreads too high and you do not get concentration on the lower nerves. Local, I use, but we have patients who are weak, feeble old men, and some whom at the sight of a cystoscope want to desert. Even doctors are afraid. The first occasion I had to use caudal for plain cystoscopy was on a doctor and the agreement was that if there was any pain there was no cystoscopy. I was lucky—the anesthetic worked.

I know of no local anesthetic agent which gives 100 per cent successful anesthesia.

REVIEWS

PREVENTATIVE VACCINATION OF THE NEWLY BORN AGAINST TUBERCULOSIS BY THE B C G.*

Statistics and Results from July 1st, 1928, to December 1st, 1928.

A. CALMETTE, M. D.

Translated by J. Birney Guthrie, M. D., from La Presse Medicale, January 11, 1928.

Following the communications which have been recently made to the Academie de Médicine upon the employment of anti-tuberculous vaccine B C G (Bacillus Calmette-Guerin) for the pre-immunization of infants, of adolescents or of adults who do not react to tuberculin, and who in consequence have probably not yet been infected by virulent bacilli, I have thought that the Academy would be interested in knowing the results of the method of vaccination of the newly born by the buccal route according to the technique which we have commenced to apply. At first the method was used very cautiously with B. Weill-Hallé on several infants particularly exposed to familial contagion. Since the 1st of July, 1924, the method has been employed on a vast scale in France and many other countries and by a large number of physicians.

The method of vaccination of the newly born by the B C G is now sufficiently well known to make it unnecessary to describe it again. I shall limit myself to recalling that it consists in provoking as soon as possible after the birth of the infant, the impregnation of his lymphatic organs with a sufficiently large number of elements of a special race of the bacillus of Koch. This culture constitutes a truly attenuated vac-

*Read before the Orleans Parish Medical Society, February 27, 1928. The discussions which followed the paper will appear at a later date.

cine in the sense of Pasteur, that is to say a living culture, capable of cultivation in indefinite series, in proper artificial media and in living organism without either losing or modifying its hereditary fixed characteristics; capable of serving as an antigen in *vitro* and in *vivo;* capable of provoking in *vivo*, the formation of antibodies; *definitely deprived of all tendency to produce virulent tuberculous lesions; and reinoculable upon sensitive animals.*

This impregnation of the lymphatic organs is more effectually realized in causing the new-born to absorb the vaccine by the buccal route, in three doses at 48 hour intervals. A convenient quantity of a recently prepared bacterial emulsion is thus administered which contains in consequence the largest possible numbers of living bacterial elements. The absorption is effected easily during the first ten days which follow birth because, during this period of life the intestine of the young infant is paved with proplasmic cells of which the phagocytic power is intense. These cells gorged with microbes pass in the lymphatic circulation into the ganglia, the spleen and the bone-marrow. These cells carry there and circulate there the vaccine bacilli without power of digesting them. These vaccine bacilli are inoffensive parasites and producers of antigenic substances whose secretion continues to determine the elaboration of defensive substances (agglutinins, etc.)

Later, about the 15th day after birth, the cylindric epithelium of the intestine forms a *revêtement* which renders the absorption of the bacilli less definite and more uncertain. However, the absorption is still effected, but with an intensity insufficient for it to be capable of utilization for anything but *re-vaccination*, when one does not purpose to *create* but to *maintain* the state of pre-immunization.

Another reason of capital importance that we seek to cause the new infant to absorb the vaccine bacilli during the first days of his life is the necessity of provoking in him this reaction with the briefest delay possible, the appearance of this particular state of resistance to infections and to virulent reinfections which characterizes the *anti-tuberculous immunity*. However, the experiments teach that for young calves, for example, the delay necessary for this effect is about 25 days. One is inclined to believe that it is the same for the human species.

During this short space of time if the infant is exposed to virulent and massive contagions when his organism is not yet in a defensive state, he is overwhelmed. It is necessary then to assure his protection as early as possible and one should strive during the period when the defensive substances are being elaborated to protect him by separation from the tuberculous mother for example, or through a relative isolation by means of scrupulous hygienic care, guarding him from the risk of grave infections. After the thirtieth day it would seem that for the pre-immunized infants, these dangers are no longer to be feared. At least this is the conclusion which we can now make on the work done up to the present time.

Since the 1st of July, 1924, the date on which the Pasteur Institute placed the vaccine B C G at the disposal of physicians and of public services, and up to the first of December, 1927, 52,772 infants have been vaccinated at their birth, some in Paris and some in the departments of France.

Of these 52,772 infants 5,749 were sent to us as children of tuberculous mothers or as living in a tuberculous environment. Each of these was entered on a card which permits us to follow his fate and to obtain regularly a report upon his condition.

A. *Infants from Birth to One Year of Age.* Three thousand eight hundred eight of these were vaccinated less than a year previous to the 1st of December, 1927. At this date one can count among them 118 deaths. Their general mortality from all causes of illness was then 3.1 per cent, while in the whole of France the general

mortality of non-vaccinated, with or without tuberculous contact is 8.5 for 100 living infants.

The general mortality of 0 to one year is then more than one-half less among the vaccinated infants in tuberculous contact than that of those non-vaccinated with or without such contact.

This is an observation particularly important because it replies to the objection of those who lay stress on the inaccuracies of diagnosis in the causes of death of young infants.

For these 3,808 infants vaccinated and in tuberculous contact the mortality for illnesses presumably tuberculous, up to the first year, has been 0.9 per cent (34 dead), so that for infants, not vaccinated living in the same conditions of tuberculous contact, this mortality varies from 24 per cent minimal for infants under supervision at the dispensary up to 70 per cent and even 80 per cent.

Denmark only, up to the present, can show for infants in contact, and not vaccinated, a mortality from birth to one year, as low as 7.7 per cent.

Even if one adopts this figure which is surely not exact for France, the difference in mortality between the vaccinated and non-vaccinated up to the age of one year will still be considerable; and of a sort that the happy effects of preventive vaccination from the first year of life will appear beyond dispute.

B. *Infants of Age of One Year to Three Years and a Half.* We can better judge at this period of the innocuousness in the long run, and the efficacy of the vaccination by studying separately the fate of vaccinated infants whose age has advanced to the period from one year to three and a half years.

Of these vaccinated infants, all in a tuberculous environment of which the youngest were born before Dec. 1, 1926, and the oldest between the 1st of July and the 31st of December, 1924. Of these we have records upon our charts at the Pasteur Institute on the 1st of December, 1927, to the number of 1,941. This group has furnished a total of 21 deaths of which 4 only are from diseases presumably tuberculous. One can find these recorded in a more complete communication which will be published in the next number of Annals of the Pasteur Institute. This will contain the detailed observations relative to each one of the 21 deaths.

The general mortality for these 1,941 infants vaccinated and in contact aged one to three and a half years has been 1.2 per cent; lower by 4 per cent than that of infants of the group aged one to four years not vaccinated with or without tuberculous contact. This reduction of general mortality measures the net gain realized by the preventative vaccination, whatever may have been the errors of diagnosis in the causes of death.

From the point of view of age and the nature of tuberculous contact these infants are classed thus:

Ages.	
From 1 to 2 years (to December 1, 1927)	1,024
From 2 to 3 years (to December 1, 1927)	812
More than 3 years (to December 1, 1927)	105
Total	1,941

Nature of Tuberculous Contact:	
Mother	628
Father	669
Mother and Father	102
Grandparents or collaterals	542
Total	1,941

The mortality presumably tuberculous (4 dead in 1,941 infants in contact) is only 0.2 per cent per 100, while that for the whole of France is for the entire infant population not vaccinated with or without tuberculous contact 0.14 per 100.

It is important to indicate that of our 1,941 of one year to three and a half years vaccinated and in tuberculous contact, the oldest which has succumbed to a presum-

ably tuberculous affection was 16 months of age. From this age onward there were no deaths from any suspicious cause.

Up to the 1st of December, 1927, 917 of these infants had reached the age of two to three and a half years and no death from disease presumably tuberculous was found among them.

The tuberculosis mortality for this group was then 0. Let us state that for this group of infants, revaccination at the 1st year was done in 298 which testifies at least to its harmless effects. It is difficult to assert that these revaccinations are necessary; but they at least serve the purpose of inciting the physicians and the families to give us news of the infants in contact which were vaccinated at the time of their birth.*

In our cases as the greater number of infants age from two to three and a half years in tuberculous contact have been submitted to revaccination at the expiration of the first year; one can attribute only to their initial vaccination, the solid resistance that they manifest to the virulent infections to which they are daily exposed.

Duration of the Anti-Tuberculous Immunity Produced by the B C G. It would seem then to follow that anti-tuberculous immunity produced by B C G lasts much longer than had at first been hoped. Perhaps it is maintained and re-enforced by the virulent contaminations—from this time on, inoffensive, for the vaccinated child brought up in a bacillus-laden atmosphere. This, we believe, is a very plausible hypothesis. It is, however, not an indispensable one. Experiment has shown us that monkeys, anthropoids, and pithecien monkeys vaccinated at the Pasteur Insittute at Kindia, French Guinea, by Wilbert in 1923 were still refractory at the end of 1927 to infection by cohabitation with monkeys artificially contaminated.

*Directions which accompany each bottle of the vaccine delivered by the Pasteur Institute indicate that revaccinations are necessary only in children in contact with tuberculosis, and that revaccination should be done at the end of the third year.

From what we have observed among a large number of infants vaccinated by Weill-Hallé and Turpin in 1921 and 1922, and which have since lived in the midst of a bacillus-laden atmosphere, it appears that the immunity lasts at least five years. That is to say, it lasts during all of that first period of life when the child is particularly exposed and sensitive to grave infections.

This observation is very reassuring. It permits us to dismiss definitely the fear of a spontaneous return of virulence of the vaccine bacilli which prevents some physicians from employing vaccine B C G systematically. It has been experimentally demonstrated that this fear seems unfounded since *no artifice of the laboratory, even successive passage through sensitive* normal organisms has succeeded in rendering B C G sufficiently virulent to cause mortality in infants and guinea pigs. The fact that the vaccine bacilli lives so long in the human organism without provoking disorders, without otherwise revealing its presence than by invoking a resistance to virulent infection, is of a nature to dispel all uneasiness as to the dangers that anyone has assigned to them.*

Professor Lignieres does not bring in any additional observations or any experimental facts which justify this restriction.

We believe that the restriction is in no way justified. The demonstration has been made in tens of thousands of healthy children who are brought up in healthy environment and which have been preimmunized by means of the B C G in the last five years in France and other countries.

*In a communication to the Academy of Medicine July 26th, 1927, Professor Lignieres of Buenos Aires, after having confirmed our experience that our culture B C G does not give tuberculosis either to the calf or to the guinea pig and that it represents truly an attenuated fixed race; that the passage through the guinea pig or through the calf does not modify it; it was observed that the preimmunizing effect that was actually determined, seemed actually to be of still longer duration than we previously believed. Professor Lignieres expresses the opinion it is wise to limit the employment of the B C G to those cases only, where tubercular contagion is to be feared.

NEW ORLEANS
Medical and Surgical Journal

Established 1844

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For two years, Paul J. Gelpi, M. D., Lucien A. Ledoux, M. D.
For one year, H. W. Kostmayer, M. D., *Secretary;* S. M. Blackshear, M. D.

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APPROACHING MEDICAL MEETINGS

We wish to call attention to the approaching meetings of the Louisiana State Medical Society and the Mississippi State Medical Association. By the time this number of the Journal reaches the eyes of the reader the Louisiana meeting will be only a week or ten days off, but the Mississippi meeting will still be at least a month away. The members of this State Society will have ample time to prepare themselves for what should be a yearly visit to whatever city holds the convention. At both these two meetings of organized medicine, splendid programs will be presented for the scientific edification of the audiences. There is one feature of such medical society meetings usually not mentioned but in truth deserving of accentuation. This point is not concerned so much with the education of the hearer from the scientific and academic point of view as it is with the enlargement of his knowledge of his fellow physicians. Meetings of such a type disclose scientific observations which are new or unknown, but more than this they reveal a spirit of good comradeship and esprit de corps which is worth as much as the scientific program. We learn to appreciate and to realize from our contact with other doctors that the world is a better and more cheerful sphere in which to live than it was before we came to know what really splendid men are our brother practitioners.

INDIGENT PHYSICIANS.

At the meeting of the American Medical Association in Dallas in 1926 a Committee was appointed to investigate the needs of indigent physicians. When this Committee reported to the House of Delegates at Washington, D. C., in 1927 it was appreciated that there was no need for a central home for poor physicians, incapacitated and unable to make a living any longer from their professional activities. It was felt, however, that it would be wise indeed to prepare some plan whereby efforts should be made to stimulate interest in providing for relief funds by various county and state organizations. With this idea in mind, the Louisiana Committee on the Care of Indigent Physicians of which Dr. C. A. Weiss of Baton Rouge has been chairman for some years, has been asked to co-operate with the national organization in formulating plans and schemes for this purpose. Too much can not be said in favor of the idea in general. Fortunately, it is but rarely that a physician in the last years of his life, or in the earlier years, as a result of some unforeseen disability, is unable to provide for himself and his family, but when such an event does take place, it

is deservant of commiseration greater than with the ordinary individual. A plea of help for such an unfortunate should meet with prompt response and there should be proper machinery set up to see that this is done. The practicing physician in the course of each day of his active life does so much good, benefits so many, and is so charitable to all, that when he himself has a misfortune or falls upon evil times he should be made sure that in a quiet and unobtrusive way help and assistance will be given to him.

THE AMERICAN COLLEGE OF PHYSICIANS MEETING.

A notable event of the past month was this gathering of Internists from all parts of the United States and Canada. The profession of this section was fortunate in having the opportunity of meeting the Masters, Fellows and Associates of this organization, the purpose of which is to advance the interests of Internal Medicine, including Neurology, Pediatrics, Roentgenology, Pathology and the Laboratory Sciences in general. Elsewhere in this issue will be found the record of the excellent work presented at this meeting.

A feature of the Twelfth Annual Clinical Session, which should be a source of pleasure and of pride to the profession of the South was the selection of Dr. John Herr Musser as President-elect. Dr. Musser's services to medicine along the line of study, investigation and original contribution to medical literature are well known. In the capacity of teacher he is doing valuable work, especially by his efforts to develop in students the ambition to prepare papers embodying their observations in the wards. More recently he has given time and thought to the development of this publication, with what his associates consider excellent results. No small part of the credit for the successful Session just ended is due him because of the thoroughness with which its preparations were made. We congratulate Dr. Musser heartily on the honor conferred on him; we congratulate the medical profession of the South for its recognition given a faithful servant from among their number.

GESSNER.

THE VACCINATION OF THE NEWBORN AGAINST TUBERCULOSIS.

The appointment of a Committee from the Orleans Parish Medical Society by the President, Dr. J. Birney Guthrie, to consider ways and means to study thoroughly Calmette's method of vaccination focuses the attention of the local medical community upon the important questions which have been prevailing as a result of Calmette's report, a translation of which is published elsewhere in this number of the Journal.

To him who reads superficially Calmette's report of his results from the vaccination of a large number of children with B. C. G., it would seem to indicate that a method for the prevention and control of tuberculosis has been evolved which presages tremendous possibilities for benefit to the human race. A critical minded reader may say that Calmette's controls are inadequate, that it is unwise to vaccinate any individual with a living organism which might at any time become virulent though at one time it is avirulent, that a method which can not be used except by a specially prepared fresh vaccine has certain elements about it which are questionable, that immunity may be short and that re-vaccination may be necessary. In order to evaluate these several elements of question and of dispute, and possibly with the hopes that it will be possible to try out the method, this Committee has been asked to function.

HOSPITAL STAFF TRANSACTIONS

SONIAT MEMORIAL MERCY STAFF MEETING.

The scientific program of the monthly staff meeting of the hospital was of exceptional interest because of the presentation and general discussion of tularemia.

Through the courtesy of Dr. J. C. Menendez, Dr. Oriole presented an interesting case of ulcero-glandular tularemia, occuring in a young white woman. The history was of an incision on the thumb while cleaning a rabbit prior to cooking a meal. This initial injury was quickly followed by acute constitutional manifestations of hyperpyrexia, pain and marked glandular enlargement. At the site of injury a suppurative periostitis developed which necessitated incision, a quantity of pus being removed. The epitrochlear, and axillary glands became enlarged and it finally became necessary to incise the axillary glands after becoming fluctuant.

Tularemia was suspected and some collected blood was sent to Washington at the suggestion of Dr. Geo. Hauser, the report confirming the diagnosis of tularemia.

The eruption was bilateral and consisted of a papule with a red areola and followed the lymph channels. Dr. Oriole went at length into the history, classification and treatment of tularemia. This was followed by a discussion on the etiology, mode of transmission and agglutination reactions by Dr. Hauser. He pointed out the virulence of the infection and the fact that apparently the domestic rabbit is not affected, but that the wild rabbit transmits the disease which is a septicemia at all times.

The paper called forth a good deal of discussion by the staff in general and in closing Dr. Oriole suggested that the profession be on the alert for this infection, because of the increasing number of cases being reported.

MAURICE CAMPAGNA, M. D.,
Secretary.

DIAGNOSIS AND TREATMENT OF ULCERS OF THE LESSER CURVATURE OF THE STOMACH.—Gastrojejunostomy is not a curative operation where the pylorus is unaffected. Excision by knife or cautery is often followed by recurrence and should not be done. Excision with gastrojejunostomy gives a fair measure of success, but may be more difficult to do and more trying to the patient. It should be confined to small non-adherent ulcers. Sleeve resection is a good operation, but practicable in only a small proportion of cases. An ulcer eroding the liver or pancreas should if possible be treated by partial gastrectomy. Jejunostomy or duodenal feeding may prove to be a valuable method of treating ulcers so high on the lesser curvature that direct attack is technically impossible.—Carson, H. W., International Clinics, December 1927.

LIFE AND LABORS OF LAENNEC—The great Charity Hospital, a household word as familiar throughout the length and breadth of this land as the name of our city, offers facilities for acquiring practical knowledge not surpassed by those of any other institution on this continent. I say this with due deliberation. Where is the hospital equal to this in size and scope to which the medical student has free access at all times and where clinical teaching and pathological researches are free from all restrictions? Is there an American medical school elsewhere than in New Orleans, in which material for instruction in anatomy, abundant, and furnished to the student gratuitously, is obtained with the sanction of the law, without the need of secrecy or of formalities which render legal provisions inoperative! Thanks to the medical profession and enlightened legislators of New Orleans, for the wise and liberal policy which has made the Charity Hospital conducive to the interests of humanity, by being subservient to medical education, as well as an asylum for the sick! Honor to Louisiana, the only State in the Union, in which the legalization of the study of anatomy is complete!—Austin Flint, Medical News and Hospital Gazette, December, 1859.

TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

During the month of March the Board of Directors has held its regular meeting and the Society two regular Scientific Meetings.

At the Scientific Meetings the following programs were presented:

March 12th.

Interstitial Pregnancy Unruptured, with Report of a Case.
By.....Dr. H. B. Alsobrook

Discussed by Drs. Kostmayer, H. R. Unsworth, A. Mattes, and closed by Dr. Alsobrook.

Jaundice Occurring in Untreated Syphilis.
By.....Dr. J. Holmes Smith, Jr.

Discussed by Drs. J. H. Musser, F. M. Johns, A. Mattes, and closed by Dr. Smith.

Malarial Therapy in Paresis.
By.....Dr. H. R. Unsworth

Discussed by Drs. C. S. Holbrook, I. Kimball, of Gulfport, Miss.; Drs. E. McC. Connely, F. L. Fenno, F. M. Johns, C. V. Unsworth, W. H. Seeman, and closed by Dr. Unsworth."

March 26th

Symposium of Reticulo-Endothelial System

Dr. Henry Laurens,
Physiology of Reticulo-Endothelial System

Dr. R. G. Pigford, by invitation,
Reticulo-Endothelial System in Disease

Dr. Isidore Cohn,
Surgery of Reticulo-Endothelial System.

Discussion by Drs. C. W. Duval, Urban Maes and R. T. Liles.

Upon the recommendation of the Society the Board of Directors and the President have appointed a special commission composed of the following members who have been instructed to investigate the Calmette Vaccine for Tuberculosis.

Drs. Chas. W. Duval, A. E. Fossier, F. M. Johns, E. L. King, Lucien A. LeDoux, Maud Loeber, Rudolph Matas, J. H. Musser, W. H. Robin, W. H. Seemann, Dr. John Signorelli.

Your special attention is called to the following annual report of the Judiciary Committee, which has been ordered published:

To the Officers and Members, Orleans Parish Medical Society.

Gentlemen:

As Chairman of the Judiciary Committee I wish to make the following report:

Your Committee has met and the matters referred have been taken up and the proper disposition made thereof.

There was no particular serious violation of medical ethics during the year.

It has occurred that during the course of the year numerous newspaper articles of unusual cases have appeared in the lay press, and in this connection we wish to call your attention to the following resolution of the American Medical Association:

"*Whereas*, Some of the prominent members of the regular medical profession have been guilty of bad taste, if not unethical conduct, in permitting their names, and often times a record of their professional attainments, to be published in the lay press in connection with articles or interviews pertaining to medical or surgical subjects; and,

Whereas, Such articles savor of self-exploitation and very justly may be considered as a bid for patronage or favor; and,

Whereas, That proper and wholesome education of the public may be served efficiently and well by published medical and surgical articles of an educational nature in the lay press under the auspices of reputable medical societies; therefore, be it

Resolved, That it shall be considered unethical for any Fellow of the American Medical Association willingly to permit his name to be connected with any medical or surgical article or interview, of an educational nature or otherwise, that may appear in the lay press "and possibly be construed as an act of self-exploitation, and that, with the exception of those articles that shall be issued by public health officers or *men not in private practice*, all educational articles pertaining to medical or surgical subjects shall appear under the auspices of this Association or one of its component societies or constituent associations.'"

Respectfully submitted,

JEROME E. LANDRY, M. D., Chairman.

Your attention is also called to the following:

Announcement of Appointment of Publicity Committee.

H. W. E. Walther, Chairman.
Isidore Cohn.
Randolph Lyons.

At a meeting of the Judiciary Committee the Committee was called into the counsel of the Board in regard to the function of the Publicity Committee. The Judiciary Committee advised a strict

interpretation of the By-Laws *in re* the constitution of the Publicity Committee, and declared that authority of the Publicity Committee will, in the opinion of the Judiciary Committee, be sufficient to protect any member against the charge of unethical communication to the public.

Comment: Much criticism has been voiced by the membership in the past regarding matter of publicity. It is desired to call attention to the function of the Publicity Committee and ask that this committee be consulted in advance regarding "Leave to Print" or the matter of "Lay Addresses." This course should not be onerous to the membership and is in strict compliance with the By-Laws as amended.

J. Birney Guthrie, M. D., President.

It is with regret for the Secretary to report the death of Dr. E. M. Dupaquier, who was one of the oldest members of the Society.

Treasurer's Report.

Actual Book Balance, 1/31/28	$1,462.89
Receipts during February	$2,776.50
	$4,239.39
Expenditures	$2,006.33
Actual Book Balance	$2,233.06

Librarian's Report.

Twelve books have been added to the Library during February. Of these 11 were received from the New Orleans Medical and Surgical Journal and 1 by gift. Notation of new books is appended.

The new reading room and the room built for us in the basement are completed and ready for use. The duplicates, both journals and books have been shifted to the new quarters and the consequent shift into the space vacated is in progress.

New Books.

Butler—Illustrated Guide to the Slit Lamp. 1927.
Mead—Diseases of the Mouth. 1927.
McAuliffe—Essentials of Otology. 1927.
Stengel and Fox—Textbook of Pathology. 1927.
Sluder—Nasal Neurology, Headaches and Eye Disorders. 1927.
Thom—Mental Health of the Child. 1928.
Leake—ed.—Percival's Medical Ethics. 1927.
Dana—Peaks of Medical History. 1928.
De Lamar Lectures. 1926-27. 1928.
MacGregor—Mosquito Surveys. 1928.
Montague—Troubles We Don't Talk About. 1927.
Slosson—Creative Chemistry. 1920.

H. Theodore Simon, M. D., Secretary.

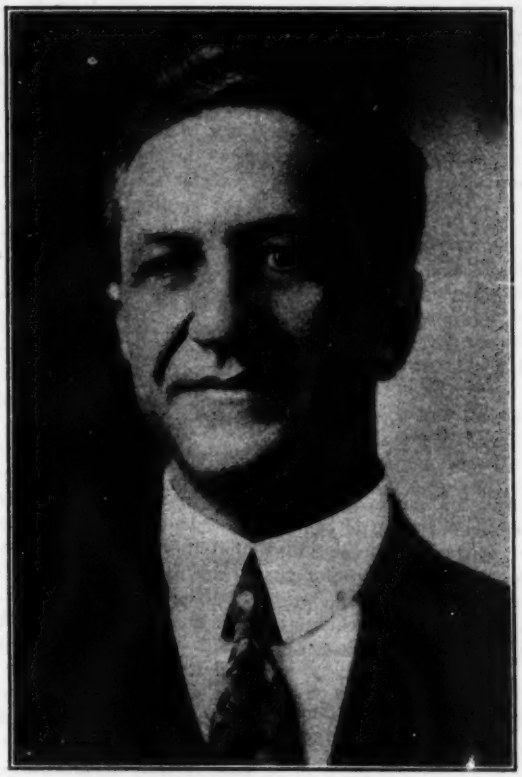
WINGS FOR THE SPIRIT.—A matter deserving the frankest discussion is the autopsy. The Jew is considered to be the most reluctant to permit autopsy of all those who constiute Occidental civilization. Much attention has been given the religious aspects of this question. It is said that the rabbis of the Talmud consented to the autopsy if it honored the dead or if it gave information of immediate value to someone suffering with the same disease as the deceased. The autopsy was to be forbidden if it desecrated the dead or if the benefit were to be of only general rather than immediately applicable value. The far reaching significance of science of all kinds was not appreciated at that time. Men know now what science has done for them and the prospects it has in store. The autopsy is the basis of much that we have learned about disease and will continue to contribute to our progress. Religion is not static but shows evolution. Modern opinion in the church is generally to the effect that the value of the autopsy to the relatives, to the community and to medicine outweighs regulations that were made at other times and under other circumstances. Rabbi J. B. Levinthal, of Philadelphia, is quoted as saying that the postmortem examination is not forbidden by the Jewish Rabbinical Law, and further, that "where a postmortem exmination may result in the discovery of the origin or cause of some serious disease, it is my firm conviction that thus to serve humanity is sanctifying, rather than desecrating, the dead." Any autopsy may serve this purpose and no one can say in advance what the results will be. Hospital administrators and officers are generally of the opinion that "the history of a hospital fatality is not complete unless the (autopsy) report of the pathologist is included," and what applies to hospital patients applies equally to those who may die at home. We must demand of our pathologists that the dead body be regarded as the material remains of a loved soul and that they treat it accordingly. Only with rare exception is such a caution necessary. In spite of all sentiment and even superstition, the autopsy may well be regarded as an honor to the dead and is certainly a service to mankind. "When a patient dies a great debt is owed humanity in order that the patient shall not have died in vain."—Karsner, H. T.: Science, 67:251, 1928.

LOUISIANA STATE MEDICAL SOCIETY NEWS

H. Theodore Simon, M. D., Associate Editor.

TO THE DOCTORS OF LOUISIANA:

In extending this invitation to you as our guests, at the approaching meeting of the Louisiana State Medical Society, it is the desire of the Committee on Publicity to lay before you some historical facts and present some bits of information that may prove interesting and instructive.



A. A. HEROLD, M. D., President
Louisiana State Medical Society

Baton Rouge is among the old towns of the southwest, having been incorporated more than one hundred years ago, in 1817. Its land titles run back many years before that period into both Spanish and French history and records. It is situated something over one hundred and fifty miles from the mouth of the Mississippi River, measured by the Lindbergh system, where it empties into the Gulf of Mexico, and is located upon the first highlands above the gulf, far beyond the possible reach of harm or damage from the floods of the Mississippi River; the line of demarcation on this City's front between alluvial and hill soil being as distinctly marked as if by the cut of a knife.

Our territory has been under the domination of at least five owerships. The native red man ruled, hunted and left here the name given it by him, and the impress of his wild, untutored life. Upon the very hill tops within our gates he held his annual revelries, dances and debauches, attracted thither by the combined elements that still contribute to our health and happiness. He called it "Istrouma," which being interpreted from the savage means "Red Pole." This "red pole," located somewhere on our river front, was a giant red cypress tree from which the bark had been peeled, and around it his spring-time dances and celebrations took place. It marked the line of limitation of the hunting grounds of two Indian tribes, the Houmas and Bayo Goulas.

Spain first became the master here and by one of those peculiar freaks of fortune this territory was not included in the Louisiana purchase by Thomas Jefferson. Even as late as 1811 Baton Rouge and the territory comprising the Florida Parishes (twelve of them), was known as the "Republic of West Florida," presided over by Henry Skipwith, as president and Chief Justice. These were simply absorbed and taken over as a part of the natural government. The "Red Pole" of the Indians was changed by the French to "Baton Rouge," and by the Americans to "Red Stick" and "Baton Rouge," because of its applied title.

Baton Rouge was the official home of one of our American Presidents, and the spot where General Taylor lived as a citizen of Baton Rouge before being elected President is now marked by a properly engraved granite block upon the old University Campus, near the Third Street entrance to the grounds. The Spaniards established a garrison here and some of the buildings erected by them are still in use and in fair state of preservation. The seat of government, removed to New Orleans when the Capital Building was destroyed in 1863, was returned here in 1881.

Within more recent years Baton Rouge has enjoyed spectacular and wonderful extension and development. A little over a decade ago, the governing heads of the great Standard Oil Company sought out Baton Rouge as the central point of

vantage for the manufacture and distribution of its various products. Its pivotal position at the head of deep water navigation and its eastern and western short line by rail, together with its well nigh perfect climate and health conditions fully justifying their choice and judgment and their investment of more than a hundred million dollars here.

Baton Rouge has become the Seventh Port in the United States; its ships, loaded here, reaching every port in the civilized world. The boundaries of Baton Rouge have been enlarged and extended until now, including suburban additions, she is near the fifty thousand mark in population, and with crude oil and natural gas at our very doors we confidently expect to pass the one hundred thousand mark within the decade.

Baton Rouge is primarily an educational city. Only recently a new, complete and beautiful home for our great Militiary and Agricultural and Mechanical College, has been designed and built almost as if by magic. It covers more than two thousand acres of ground and is the last word in college architecture and equipment. Already ten million dollars have been expended and we have barely started upon it. Its attendance runs into thousands.

No city of its size in America can excel us in the matter of public school foundation and equipment. Magnificent, modern edifices have been built in all directions, the latest high school building alone costing more than a half million dollars, while our colored population is being adequately and splendidly provided with the best educational facilities.

Every street and sidewalk within our city limits is paved and a majority of them hard surfaced, while our sewerage and drainage systems are well nigh perfect. We have spent several hundred thousand dollars on municipally owned docks and they are fully justifying the investment.

Our highways, many of them hard-surfaced, lead to every point of the compass, and there have been or are being built toll-free bridges to connect us with the wide world.

Last, but by no means least, we are the proud possessors of two magnificent, high grade and up-to-date sanitariums, equipped with every modern facility, and an honor and credit to our splendid city.

With every essential to make living wholesome and life happy Baton Rouge greets you and extends its welcome and its hospitality. We are going to make this the greatest meeting ever held by the State Society. Don't miss it.

COMMITTEE ON PUBLICITY.

BATON ROUGE.

Baton Rouge was first seen by Robert Cavalier de LaSalle, the prince of American explorers, when he came *down* the Mississippi River in 1682 and was certainly seen by Pierre Lemoyne, Sieur d'Iberville, when he came *up* the river in 1699. Up to that time it was merely the line of demarcation between the hunting grounds of the Houmas and Bayou Goula Indians. History tells us that the chief of the Houmas was named Istrouma and for that reason the name has local interest. The name of "Baton Rouge" is pure French and means "Red Stick." Diron d'Artaguette the officer in charge of this district under the French government in the early days of the discovery, writes that on the first highland that one saw when ascending the Mississippi River, there was located a red cypress tree of such huge dimensions that if felled and made into a dug-out it would make two good sized boats. The French with their characteristic perspicacity for nomenclature called the place Baton Rouge or Red Stick, after this monster landmark so palpably plain to those passing on the river. While some historians have indulged their fancies to the extent of saying that it was due to a pole on which was hung the scalps of captives, and dyed red with blood, others that the post was painted red to make it attractive, and so on ad libitum, the fact remains that as the tree was so conspicuous it was used in aboriginal times as a boundary mark between the hunting grounds of the Houmas and Bayou Goulas, and instead of being painted as claimed (and all the pigments the Indians had in those days were used in body ornamentation) but had been skinned or stripped of its bark, to make it prominent, for some distance above the ground after the custom of the Indians to blaze trails by gashing trees to mark the way others must follow. With their tomahawks they removed the bark and got the same effect as would have been gotten from painting. Some authorities have placed the Red Stick at the mouth of the old Garrison Bayou, Lake Grasse, now closed by the dyke in the formation of University Lake, but if we take into consideration the fact that it stood on the first highland which one saw when ascending the river, it must have stood where the State Capitol now stands. Also the height of the hill gave it eminence over the surrounding country and made it remarkable. Also how much more in the keeping of the eternal

order of things is the thought that where the Indians of that period met to arrange their intertribal affairs, on the same spot meets the Legislature of Louisiana to arrange the affairs of this great State. This monarch of the forest, planted by the hand of the Great Spirit was no doubt meant to mark a spot favored by the gods of this American continent, for it stood guard over the place where the greater European nations would struggle over the mastery of the Mississippi River as being the key to American commerce, and one after another they marched and countermarched and strove to conquer and hold this spot as being the strategical solution of their sought for domination. Under eight separate and distinct flags this place, originally marked by the Red Stick of the Great Spirit, has proven in recent years to be the headwater of deepwater navigation on the Mississippi, the greatest inland seaport in the country, surrounded with all the wealth of nature lavishly supplied, and, by reason of its dominance of the great river, immune from its annual rampages. These flags were:

Fleur de lys of France—white and yellow fleur de lys—flag of Bourbons.

English Flag—crosses of St. George and St. Andrews crossed in red and white.

Flag of Spain—white flag, coat of arms of Castile.

Florida Republic—Large white star on blue field.

Flag of United States—seventeen stars and seventeen stripes.

Flag of Louisiana—sovereign State of Louisiana. Flag of United States without stars—one yellow star.

Confederate Battle Flag—stars and bars.

United States Flag—stars and stripes.

In the old days the Europeans sought to hold the river for its advantages as an artery of commerce, while in modern times it still is the greatest asset of the people of Louisiana despite its destructive periods of flood stage, caused by the fact than man has endeavored to obstruct its course and divert its channels.

Dr. J. Arthur Tucker, Chairman of the Transportation Committee, has spent some time with the Highway Commission, investigating the various routes into Baton Rouge for the State Meeting. Dr. Tucker thinks it would add a great deal to the pleasures of the meeting if the doctors would drive to Baton Rouge in their cars. Baton Rouge has ample storage facilities, and if any doctor will write to Dr. Tucker he will gladly route him by the best roads to Baton Rouge.

Dr. Clarence A. Lorio, Chairman of the Golf Committee, is actively making plans to entertain the doctors during the Baton Rouge meeting. He requests all golfers to bring with them their club handicaps so as to participate in the various competitions. Prizes are being offered, the principal one being the Aesculapian handicap, in which a prize is given to the champion of the medical meeting; there are also prizes for low gross and high gross with a blind hole prize that should cheer any golfer.

Both Baton Rouge Golf and Country Club and Westdale have offered the privileges to all doctors, the badge being the admittance card.

Dr. Lorio suggests that it would add to the pleasure of the trip if the golfers would come to Baton Rouge on Sunday, April 8, 1928, and begin the golfing before the scientific sessions.

WE HAVE RECEIVED THE FOLLOWING SYNOPSES OF PAPERS TO BE READ BEFORE THE LOUISIANA STATE MEDICAL SOCIETY, BATON ROUGE, LA., APRIL 10, 11, 12, 1928.

SECTION ON MEDICINE

TUESDAY, APRIL 10, 1928, MORNING SESSION, 9:00 O'CLOCK, SECTION ON PUBLIC HEALTH, OPEN TO THE PUBLIC, GARIG HALL.

2. The Prophylaxis of Cancer, With Special Reference to the Cervix Uteri,

By C. Jeff Miller, M. D.,
New Orleans, La.

The general causation of cancer is considered, and special stress is laid on childbirth injuries and on infections as specific causes of cancer of the cervix, and on their correction as a prophylactic measure against its occurrence. The family physician is largely responsible for the education of women in this regard, and the work of organized medical bodies is also essential. Reliance on medical measures in the treatment of cancer is dangerous, and all treatment is based on a proper grouping of cases. Despite our ignorance of the etiology of cancer, the outlook is far from hopeless for its ultimate conquest.

3. Diet—An Important Factor in Health and Disease,

By Allan Eustis, M. D.,
New Orleans, La.

Recent developments of knowledge regarding diet of human beings. Experimental and clinical observations have

shown that by the proper diet nature can repair damage to tissues which were formerly considered beyond repair. The average layman is scrupulously careful in dieting his horse, cow or dog, but usually eats what is served to him by his cook. Many diseased processes are undoubtedly caused by this ignorance on the part of the layman. Distribution of knowledge as to normal nutrition becomes a public health question. Diabetes, eclampsia, rickets and probably pellagra are diseases in which diet must be considered from a public health standpoint. Dietetic principles are considered in the treatment of fevers, nephritis, liver disease, and pernicious anemia.

4. The Full Time County Health Projects Developed as a Result of the Flood in the Mississippi Valley,

By Surgeon J. G. Townsend,
United States Public Health Service, Arkansas State Board of Health.

Full time county health work existing prior to the flood of last year, the emergency health work that was accomplished immediately following the disaster, the plan of developing full time county health projects through the co-operation of the Public Health Service, Rockefeller Foundation, State Boards of Health and local county governments, the program of activities in these full time projects and what has actually been accomplished.

TUESDAY, APRIL 10, 1928, AFTERNOON SESSION, 2:00 O'CLOCK, HEIDELBERG HOTEL.

3. A Consideration of Some of the Intestinal Parasites With Report of Three Cases of Oxyuris Incognita Infestation.

By Elizabeth Bass, M. D.,
New Orleans, La.

The paper is confined to a brief description of a few of the more frequently encountered intestinal parasites with reference to their development, habitat, mode of transmission, symptoms produced in man, and the laboratory diagnosis.

4. Blood Pressure in Tuberculosis,

By Oscar W. Bethea, M. D.,
New Orleans, La.

Brief review of literature.

Statistics gathered in the male, white, tuberculosis Evacuation Service, Charity Hospital.

Comparison of these blood pressure readings with those made at the same time in a general medical ward for white, male patients.

Analysis of recent blood pressure readings made at Charity Hospital.

Conclusions.

5. The Neutrophil Nucleus Index, the Lymphocyte Index, and the Monocyte Index as Valuable Assets in the Diagnosis, Prognosis, and Treatment of Tuberculosis.

By Wallace J. Durel, M. D.,
New Orleans, La.

The neutrophil nucleus index, the lymphocyte index, and the monocyte index are discussed, and their clinical value substantiated by a careful study of thousands of blood smears from tuberculous patients in different stages of the disease.

The variations in these indices are dependent upon "toxic" elements present in the tuberculous at different periods and in various quantities.

The neutrophil nucleus index is acquired by taking the percentage of neutrophil cells with a nucleus with one lobule or with several lobules all connected by isthmus bands. This differs from the Arneth picture, and is a fair gauge for the administration of the tuberculins and in directing the exercise of our tuberculous.

The lymphocyte index is acquired by dividing the number of neutrophils by the lymphocytes, and the monocyte index by dividing the number of lymphocytes by the monocytes or large mononuclears. Thus one acquires a fair indication of the grade of clinical severity and of the "activity" in the lesions.

WEDNESDAY, APRIL 11, 1928, MORNING SESSION, 9:00 O'CLOCK, EAST LOUISIANA STATE HOSPITAL, JACKSON, LA.

8. Hysterical Hiccoughs With Associated Phenomena,

By Walter J. Otis, M. D.,

Pithiatism externalizes itself in various ways at various times in apparently healthy subjects. Violent emotions obviously prepare the soil and create a predisposition for hysterical manifestations.

The writer presents the case of a young female following psychic trauma with resultant emotional imbalance followed by a period of hiccoughs which, at its onset, failed to yield to treatment, later making a recovery.

9. Some Interesting Spinal Cord Lesions,

By D. L. Kerlin, M. D.,
Shreveport, La.

Includes report of four cases, two of which are Caudi Equina tumors, a case of a unilateral cord injury presenting Brown-Sequard syndrome, and a case of an extradural abscess of lumbar cord. A laminectomy was performed on all these cases, with very good results. All of these cases have been observed since operation, progress checked, and their condition at present, several months after operation.

10. Common Disorders of the Colon Observed in the Treatment of the Chronic Invalid,

By E. L. Eggleston, M. D.,

Battle Creek, Mich.

The pathology of the colon is very important and has not had proper attention.

1. Ulcerative Colitis: Discuss so-called non-specific type. Careful sigmoidoscopic examination of the patient is essential to proper diagnosis. Work of recent investigators has done much to excite interest in this subject and the prospects for the development of a more satisfactory therapy are very bright.

2. Spastic Colitis: This type is seen much more frequently than the ulcerative. Its diagnosis and therapy are not well understood by the medical profession. It is responsible for a great deal of physical disability and it is essential that more attention be given to this class of cases. In probably all cases it results from a nervous disturbance. Psychotherapy is an important part of the treatment.

11. Tularemia, Review of Literature With the Report of Five Cases,

By W. S. Kerlin, M. D.,

Shreveport, La.

Tularemia is an infectious disease caused by bacterium tularense. Cases have been reported from thirty-nine states of the union. Transmission to men occurs by (1) the bite of the horse fly, (2) wood tick, (3) Tick (Species undertermined)—(4) Contamination of his hands or conjunctival sac with infected organs, body fluids of infected rabbits, flies or ticks.

Four Clinical types are usually noted:

(1) Ulcero-glandular.

(2) Oculo-glandular.

(3) Glandular.

(4) Typhoid.

Convalescence is slow. It is unusual for a patient to be at work again at the end of a month. Frequently they are not able to work the second or third month. Some have not entirely returned to normal for six months to a year.

The persistence of agglutinins in the blood of long recovered cases is especially noticeable.

The treatment is symptomatic. No preventive, vaccine or curative serum has been perfected.

Five cases of the Ulcero-glandular type occurring in Louisiana, are reported with complete recoveries in four. One case at the end of four years is still incapacitated.

WEDNESDAY, APRIL 11, 1928, AFTERNOON SESSION, 2:00 O'CLOCK, EAST LOUISIANA STATE HOSPITAL, JACKSON, LA.

13. The Diagnosis and Treatment of Celiac Disease,

By C. T. Williams, M. D.,

New Orleans, La.

Synonyms: Chronic intestinal indigestion; intestinal infantalism; chronic intestinal insufficiency.

Etiology: Etiology unknown. Occurs usually at from 1 to 3 years, shortly after starting mixed diet; rarely occurs in the breast fed; the celiac syndrome is intensified by feeding fresh cow's milk fats and carbohydrates.

Diagnosis: Prominent doughy abdomen: large, semi-solid, grayish colored stools; loss in weight, or stationary weight, which may have been present for months and without other apparent illness; marked gain in weight on protein diet, after exclusion of fresh cow's milk, fats and carbohydrates.

Treatment. Three phased high protein diet of Howland, as modified by Sauer.

15. Antigens and the Precipitin Test.

By Dr. H. W. Butler, M. D.,

New Orleans, La.

Consists mainly of a series of blood serum tests, using the different well known antigens as the precipitating antigen and the last Meinicke modification as the method of choice. The slide method will also be described, using the same antigen in both tube and slide. The tests are compared with the Kolmer Wassermann reaction.

17. A Consideration of the Erythrocytic Sedimentation Rate,

By Edwin H. Lawson, M. D.,

New Orleans, La.

The sedimentation rate of erythrocytes under varying conditions is discussed, including a consideration of the different theories dealing with the variance of such rate and a comparison of the technics employed. The application and use of this laboratory procedure in the diagnosis and prognosis of disease is also considered.

18. Digitalis.

By T. E. Williams, M. D.,

Shreveport, La.

1. Short history of the use of digitalis.
2. Experimentation on animals, showing:
   a. Proof that digitalis acts upon the vagus center and vomiting center.
   b. That it acts upon the blood vessel walls and the walls of the heart.
   c. That it is united with the muscle and nerve tissue in the heart and blood vessels.

d. The method of detoxication of the heart.
e. The dilating and constricting action upon the different parts of circulation.

3. The standardization by chemical and pharmaceutical methods.
4. The frog unit.
5. Preparation and mode of administration.
6. Dosages, small and large, calculated in advance by Dr. Cary Eggleston's method.
7. Therapeutics:
   a. Pneumonia.
   b. Heart failing or threatening to fail.
   c. Fibrillation.
   d. Thyroid intoxication.
   e. Surgical conditions with a rapid heart, when the heart itself is not affected.
   f. Coronary sclerosis and myocarditis.
8. Indications for its discontinuance.

SECTION ON SURGERY.

TUESDAY, APRIL 10, 1928, AFTERNOON SESSION, 2:00 O'CLOCK, HEIDELBERG HOTEL.

2. Roentgen-ray Treatment of Malignant Bone Tumors With Report of Cases,

By C. P. Rutledge, M. D.,
Shreveport, La.

The roentgen-ray treatment of malignant bone tumors is of pronounced value. All bone tumors suspicious of malignancy should be treated with roentgen-ray while waiting for report of biopsy, even though surgery may be contemplated. Report of two cases, with lantern slide demonstration, of malignant bone tumors, diagnosis confirmed by Bone Sarcoma Registry, treated with roentgen-ray by author, clinically well one and two years respectively after treatment.

4. Experiences in the Use of Foreign Proteins in Treatment of Diseases of the Eye,

By W. L. Benedict, M. D.,
Rochester, Minn.

Foreign protein therapy is used with good results in some diseases of the eye. The substances in most common use are milk, typhoid vaccine, diphtheria antitoxin, and proprietary articles. The indications for use and the choice of substance to be used are not clearly established. The case histories of patients who have been treated with various proteins have been reviewed. The following deductions have been made.

1. The age of the patient has no bearing on the result of the treatment.
2. Boiled milk is a safe protein to use. No anaphylaxis has been observed.
3. Some patients fail to react to injections of milk. Other proteins should then be used.
4. Large doses of diphtheria antitoxin can be given daily for twenty to thirty days.
5. Some chronic diseases of the eye respond to protein therapy and should be used long enough and in sufficient quantity to be certain of an effect.
6. Protein therapy is an adjunct to general and local treatment but has great value in early inflammatory eye diseases and should be used freely in hospitalized patients. Its value is considerably less in ambulatory patients.

WEDNESDAY, APRIL 11, 1928, MORNING SESSION, 9:00 O'CLOCK, EAST LOUISIANA STATE HOSPITAL, JACKSON, LA.

7. Actinomycosis in Louisiana,

By Hermann B. Gessner, M. D.,
New Orleans, La.

In this paper are presented seven cases from the records of Touro Infirmary and Charity Hospital, two involving the lung, one the pelvis, two the jaw, one the arm, and one the foot. In all of these the diagnosis was made or confirmed by laboratory examinations. In detail is presented a case of jaw actinomycosis apparently cured in a short time by excision, radium and massive doses of iodid of potassium. Two cases not confirmed by laboratory examination are mentioned. Madera foot is discussed.

12. Genital Tuberculosis,

By H. C. Bumpus, Jr., M. D.,
and
G. J. Thompson, M. D.,
Rochester, Minn.

The subject of genital tuberculosis in the male is reviewed with special reference to the differential diagnosis, primary focus, associated urinary infection, and the results of treatment, together with the final prognosis as observed from a study of 300 cases seen at the Mayo Clinic, 175 of whom were operated upon.

WEDNESDAY, APRIL 11, 1928, AFTERNOON SESSION, 2:00 O'CLOCK, EAST LOUISIANA STATE HOSPITAL, JACKSON, LA.

11. Obscure Symptoms Presented by Anomalous Kidneys. Report of Three Cases.

By Barron Johns, M. D.,
Shreveport, La.

The finding of anomalous kidneys has become a matter of common occurrence with the modern urological technique. When diseased, symptoms and physical signs may be obscure and misleading.

Case reports:

(1) Woman with double kidney, the ureters having a common orifice in the bladder.

(2) Woman with a double kidney, the superior pelvis being pathological and acting as a definite focus of infection.

(3) Ectopic kidney, complicated by fibroid tumor of uterus.

None of these cases presenting symptoms suggestive of renal disease.

13. Arthritis—Its Cause and Treatment,

By John T. O'Ferrall, M. D.,

New Orleans, La.

The paper will deal largely with the cause and a few remarks in regard to the treatment of many cases of toxic arthritis. While it is believed that clearing up of the usual foci of infection, such as, tonsils, teeth, prostate, etc., is essential and should be done, at the same time, a very common and important focus of infection, namely, the gastro-intestinal tract, is, in the majority of instances, entirely overlooked. The methods for the proper relief of intestinal stasis and consequent absorption will be taken up, in addition to the general eliminative and stimulative treatment.

14. Surgical Emergencies,

By Isidore Cahn, M. D.,

New Orleans, La.

1. Spontaneous. (Acute perforating gastro and duodenal ulcers, acute intestinal obstruction and other conditions which apparently demand emergency surgery-.

2. Post-traumatic emergencies.

3. Emergencies arising during the course of an operation.

4. Post-operative emergencies.

Spontaneous, post-traumatic, and post-operative will be considered from a standpoint of diagnosis and treatment.

17. Pseudocyesis,

By J. M. Bodenheimer, M. D.,

Shreveport, La.

Very little in the literature on the subject. Most of our writers on obstetrics give it but passing notice. Condition occurs among lower animals. Condition has been produced upon lower animals by covering the female in heat with vasectomized males. The female of both the higher and lower form of animal life has a peculiar psychology which may account for the existence of the condition according to the psychologists.

Report of interesting cases.

18. Common Complications of Fractures.

By H. W. Meyerding, M. D.,

Rochester, Minn.

The care of fractures is of interest to every physician, and a knowledge of the immediate and late complications arising is of paramount importance. The public is rapidly becoming educated to the possible complications accompanying fractures, together with the methods of treating them, and it is demanding the best of results. The author believes that the care and treatment of fractures requires constant supervision and many of the complications that arise can be obviated if the proper precautions are taken during the first few days. Emphasis must be placed upon the prevention of infection, Volkmann's ischaemic paralysis, delayed and non-unions, joint stiffness and late deformity.

THURSDAY, APRIL 12, 1928, MORNING SESSION, 9:00 O'CLOCK, HEIDELBERG HOTEL.

19. Nasal Fractures and Treatment,

By Val H. Fuches, M. D.,

New Orleans, La.

Anatomy and physiology of nasal structures. Diagnosis of fractures. Treatment by means of copper splinting. Nasal fractures and their treatment.

20. Hypertrophic Pulmonary Osteoarthropathy.

By L. J. Williams, M. D.,

Baton Rouge, La.

This paper deals with a case of Bamberger-Marie's disease in a young boy. The condition begins with a long standing multiple abscess of lungs, followed by the secondary changes in the long bones and the "Hippocratic fingers."

21. Surgical Treatment of Pulmonary Tuberculosis,

By Alton Ochsner, M. D.,

New Orleans, La.

In attacking a tuberculous process surgically an attempt is made to immobilize and decrease the function of the affected part—at the same time not interfering with the nutrition of the involved areas.

The surgical treatment of pulmonary tuberculosis may be divided into conservative, which is non-destructive, and radical or destructive.

The conservative methods consist of artificial pneumothorax and operations on the phrenic nerve. These procedures may be used in a large number of cases in the early and also in the advanced. The indications are not as strict as for the radical measures.

The radical procedures consist of plastic operations on the thorax and apicolysis, with an attempt made to bring about an extra pleural collapse. Of the various plastic procedures the paravertebral thoracoplasty is to be preferred. A brief discussion of the various operative procedures with lantern slide demonstration is given.

22. Cleft Palate,

By E. D. Fenner, M. D.,

New Orleans, La.

1. Cleft palate and cleft lip are variations of the same developmental failure. 80 per cent of cases of cleft palate have associated cleft lip.

2. Cleft lip will be considered only incidentally, as a necessary part of the treatment of the cleft palates with which it is associated.

3. Operative procedures for cleft palate divided into two divisions:—a). Preliminary operations to close fissures of the alveolar border, done in early infancy.—b) Closure of the roof of the mouth, postponed until the end of the second year.

4. Langenbach - Fergusson method the procedure of choice.

5. Success in this work is the result of experience and long training. General surgical competence not enough to promise good results. The "occasional" operator doomed to disappointment.

AMERICAN COLLEGE OF PHYSICIANS MEETING.

The Twelfth Annual Clinical Session of the American College of Physicians was held in New Orleans March 5-9 with over nine hundred physicians from the United States and Canada registered. The scientific papers composed one-half the program, clinics in the afternoon the remainder. On March 5, before an audience which packed the large meeting room on the roof of the Roosevelt, several notable papers were read by Julius Bauer, Joseph Sailer, Maud Slye and Aristides Agramonte. The morning of March 6 was made up of a symposium on tuberculosis, at which among others spoke Dr. Charles L. Minor, former President of the Southern Medical Association, and by a symposium on anemia. On the morning of March 7 various cardiac conditions were discussed, together with a symposium on epilepsy, and in the evening a symposium on infectious diseases, in which participated Birkhaug, Dochez, Cooke and Small. March 8 there was an important symposium on diabetes, in which papers were read by Dr. A. A. Herold, President of the Louisiana State Medical Society, Dr. Frederick M. Allen and others. The last day of the meeting was notable because of the splendid symposium on tropical medicine, in which Agramonte, Castellani, James of the Canal Zone, Colonel Roger Brooke and Dr. E. R. Whitmore took part. In the evening Professor Julius Bauer of Vienna gave the Convocation Address on Individualization in Clinical Medicine.

Clinics were held every afternoon at Charity Hospital, where Drs. Guthrie, Fossier, Lyons, Daspit, Herrmann, Stengel of Philadelphia and Bauer of Vienna spoke and demonstrated interesting cases. Clinics were given at Touro Infirmary by members of the staff, at the Baptist Hospital, at the U. S. Marine Hospital together with demonstrations at the Richardson Memorial and Hutchinson Memorial. At the Marine Hospital there were held four clinics at which many cases of leprosy were presented to the members, much to their delight and edification. The visiting members of the College spoke with real appreciation of the cordial reception they had received from the New Orleans doctors and left with a feeling of gratitude to the local physicians for the time and trouble they had taken to make the clinics interesting and instructive.

PRESBYTERIAN HOSPITAL'S CLINICAL SOCIETY HOLDS ANNUAL MEETING AND ELECTION.

At the annual meeting of the Clinical Staff of the Presbyterian Hospital, Dr. John W. Lindner was re-elected president of the society, Dr. Ada Kiblinger, vice-president, and Dr. Donovan C. Browne was re-elected secretary and treasurer.

Dr. H. R. Unsworth read a paper on "Malarial Therapy in Paresis." Discussion by: Dr. J. O'Hara, Dr. C. V. Unsworth, Dr. J. M. Batchelor, Dr. Wm. H. Harris and others.

TUBERCULOSIS & PUBLIC HEALTH ASSOCIATION OF LOUISIANA

March, 1928

From April 1 to 8, Negro Health Week will be observed throughout the United States, particularly in the southern states. The Negro Health Problem, especially from the point of view of tuberculosis, is one of great economic and social importance to the south. With a death rate from tuberculosis, ranging as high as three to four times that of the whites, even in spite of its apparent decline, the number of cases of tuberculosis among negroes in the South, calls for serious consideration by white leaders in these communities. The total deaths from tuberculosis of all forms in Louisiana in 1927 were 1881; of this amount 1178 were of the negro race. We ask the cooperation of all health and social groups in the observance of Negro Health Week. An excellent bulletin of suggestions and information may be obtained by writing the United States Public Health Service, Washington, D. C.

Splendid progress in our EARLY DIAGNOSIS CAMPAIGN is being made in Louisiana. We have the endorsement of the Louisiana State Medical Society, in a communication from its secretary-treasurer, Dr. P. T. Talbot, from which we quote: "The Executive Committee in regular session Monday, March 5th, unanimously endorsed the plan of the Tuberculosis and Public Health Association of Louisiana in their conduct of an Educational Campaign on the early diagnosis of tuberculosis. They are very anxious to help in any way that you might direct toward accomplishing the desired results, and each and every

one wishes to assure you that they will do everything they can in their respective districts toward aiding in the good work."

Through the corporation of the State Medical Society, our circular "An Appeal to the Medical Profession" was enclosed with the March issue of its official organ, the New Orleans Medical & Surgical Journal, to all Louisiana subscribers. Also, through the courtesy of the Journal Committee, an editorial on Early Diagnosis and an article on "Diagnostic Standards" appear in the March issue.

The Louisiana State Board of Health has also promised its assistance, in bringing our message, the importance of Early Diagnosis, to the medical profession and lay public.

Through the courtesy of local motion picture houses, we are receiving splendid assistance in the display of our films for lay and medical groups. Fifty thousand ciculars "You May Have Tuberculosis—Let Your Doctor Decide," are being distributed through our local associations. Through the National Association and local outdoor poster agencies it has been made possible to cover approximately one hundred boards which have been provided free by the poster companies.

During the past twenty years, the death rate from tuberculosis has been cut fifty per cent. Even today, however, the value of early symptoms is not fully appreciated, as doctors still report the majority of cases that come to them for their first examination are in an advanced state of the disease. It is believed important, therefore, to conduct this campaign at this time, with two primary objects in view: first, to focus attention of the public upon the danger signs of early tuberculosis and urge them to go to their doctors for an examination; and, second, to stimulate renewed interest on the part of the medical profession in the recognition of early signs of tuberculosis.

And local groups, club, or medical society, may have free literature and posters on application. We would like our intensive work in this campaign to continue through the months of March and April, and as long thereafter as is necessary.

We again call attention to "Diagnostic Standards" for use by the medical profession. One hundred of these were issued on request to the Junior Medical Students of Tulane University, and requests for copies are being received daily from physicians throughout the state. We will be glad to furnish single copies free.

Our new unit, the Tensas Parish Tuberculosis & Public Health Association, is growing rapidly. They have registered to date 115 members in the state and parish associations for the year 1928, from the town of St. Joseph alone, and the Waterproof division has organized a Junior League composed of High School groups, who are planning to put on a health play.

We are glad to note the increase demand for Health Plays. Both from individual teachers and our local associations, requests for plays to be used in the elementary and high school classes are being received continually. One play particularly recommended at this time is "The Future Doctor's Clinic," as it is exactly in line with the idea of the Early Diagnosis Campaign. We will be glad to send a copy of this play to superintendents of schools and local associations on request.

Our Modern Health Crusade in the schools is also progressing. In the larger parishes where this has been established for some time, additional classes are being enrolled, and in many other parishes, individual teachers are requesting the score cards for their particular grades.

If you plan to attend the Annual Meeting of the National Tuberculosis Association which is to be held in Portland, Oregon, June 18th to 23rd, please do not delay making your reservation. The National has arranged a special train over the Burlington and Northern Pacific. This train will leave Chicago on the evening of June 14th., and Minneapolis on the evening of the 15th. This will enable those who have attended the American Medical Association meeting to join this train and participate in the meeting of the National Tuberculosis Association. Physicians are urged to think about the Portland meeting when arranging their trip for the American Medical Association, as both meetings can be attended with very little difference in cost. Louisiana parties desiring group reservation can arrange the same through the Tuberculosis & Public Health Association of Louisiana, by making application at once. If you are interested, let us know and we will have literature mailed you.

The St. Tammany Parish Medical Society held its regular monthly session on March 9th. with the following members present: Doctors W. L. Stevenson, Vice President, presiding; Roland Young, Secretary-Treasurer; C. A. Farmer, F. R. Singleton, J. F. Polk, J. K. Griffith, R. B. Paine, J. F. Buquoi, A. G. Maylie and L. D. R. Houk, D. D. S. as guest.

By invitation Dr. Houk read and illustrated with roentgen-ray pictures, a most interesting paper on "What constitutes Oral Sepsis" which was discussed by Drs. Paine, Polk, Griffith, Buquoi and Maylie.

Dr. Griffith led a dissertation on "Measles" (a most timely and always interesting subject to the Physician although poo-hood by laymen as of minor importance), which was thoroughly discussed, bringing out many instructive diagnostic points and symptoms, by Drs. Farmer, Stevens, Buquoi, Paine, Singleton and others.

After a very keen and earnest discussion of the question, from every angle, the Society unanimously resolved that "The President appoint a committee to confer and consult with the State Board of Health, the Police Jury, the School Board, the Dentists and whoever else might be of assistance in installing and carrying out a program for a permanently regular and systematic examination of the school children of this Parish, by *both* physicians and dentists."

It was unanimously resolved "That the Washington Parish Medical Society be formally and officially informed that this Society endorses and extends its moral and other support that it may or can in its (The W. P. M. S.) action against chiropractics."

Many of the members expressed an intention of attending the State Society's meeting in Baton Rouge next month.

The Society adjourned to meet in Covington on April 13, 1928.

Lafourche Parish Medical Society has elected 1928 officers as follows:

President, Dr. Albert Meyer, Thibodaux; Vice-President, Dr. J. Dunshie, Rita; Secretary-Treasurer, Dr. Philip Dansereau, Thibodaux; Delegate, Dr. Chas. Barker, Thibodaux; Alternate, Dr. J. Dunshie, Rita.

The Terrebonne Parish Medical Society has elected the following 1928 officers:

President, Dr. R. W. Collins, Houma; Vice-President, Dr. T. I. St. Martin, Houma; Secretary-Treasurer, Dr. P. E. Parker, Houma; Delegate. Dr. T. I. St. Martin, Houma; Alternate, Dr. P. E. Parker, Houma.

POINTE COUPEE MEDICAL SOCIETY HOLDS MEETING.

At the regular monthly meeting of the Pointe Coupee Medical Society, held in December, 1927, the first subject on the program was a paper by Dr. Carruth on the value of periodic health examination. High authorities were quoted, and data from life insurance companies, especially from the Metropolitan, which was a pioneer in advocating this work, showed that the average lives of men and women had been markedly extended during the very recent past, due to this annual or semi-annual taking stock of themselves. At the conclusion of the paper the question was freely discussed by all present endorsing the plan, Drs. Becnel, Plauche and Rougon expressing their views at some length. As a result of the discussion it was indicated that the Society would take steps in the near future to put on a campaign throughout the parish, explaining at various community centers the need and value of such periodic examination, especially to men and women past thirty-five years of age.

Next on the program Dr. Rougon read a report of three quite similar and rather unusual cases, the history of which, it was unanimously agreed by all taking part in the discussion, brought out some very interesting features.

At the conclusion of the scientific discussions, the election of officers for the ensuing years resulted as follows:

Dr. R. M. G. Carruth, President.

Dr. F. F. Rougon, Secretary.

Dr. Carruth, Delegate.

Dr. J. W. Plauche, Alternate.

The Society then adjourned to an oyster supper, when medical discussions were laid aside and a delightful social hour was enjoyed.

F. F. ROUGON, Secretary.

Dr. John T. Crebbin has recently moved from 1210 Maison Blanche Building, New Orleans, to 1528-29 Slattery Building, Shreveport, La.

Dr. Charles J. Bloom, Professor of Pediatrics with the Graduate School of Medicine of the Tulane University of Louisiana, addressed the Social Conferences of Mississippi at Jackson, Miss., March 2, 1928, on the subject of "Decreasing Infant Mortality."

DIED: Julia Stoddard Wood, Jennings, La. Georgia College of Eclectic Medicine and Surgery, Atlanta, 1898, aged 67, died January 25, of nephritis.

DIED: George H. Jones, Lutcher, La. Medical Department of Tulane University of Louisiana, New Orleans, 1891, aged 66, died December 18, 1927, of cerebral hemorrhage.

AMERICAN CONGRESS OF PHYSICIANS AND SURGEONS.

Washington, D. C., May 1-3, 1928.

Louisiana State Medical Society:

Assuming that many of your members will attend the above convention, it occurs to me to direct attention to the superior service of our "Crescent Limited," which leaves New Orleans at 10:00 P. M. and reaches Washington at 6:20 the second morning. This train carries through sleepers from New Orleans to Washington, which are set out of the train at the latter point and may be occupied there until 7:30 A. M. Its equipment is most up-to-date in every respect, and includes such modern conveniences as club and observation cars, which are provided with ladies' and gents' shower baths, valet, maid, manicurist, etc.

The Louisville & Nashville Railroad also offers the service of "The New Orleans Limited," which leaves New Orleans at 9:00 A. M. and reaches Washington at 9:00 the following night, as well as the service of "The Piedmont Limited" which leaves New Orleans at 5:00 P. M. and reaches Washington at 3:00 o'clock the second morning. These trains likewise carry through sleepers from New Orleans to Washington, the one on the latter being set out of the train in Washington, where it may be occupied until 7:30 A. M.

In accordance with the certificate plan arrangements, under which reduced fares have been authorized for account of this convention, one-way tickets must be purchased from New Orleans to Washington at the regular one-way fare of $40.20, and a certificate receipt will be issued thereon at time of purchase. If not less than 250 certificate receipts are presented by members attending this convention, they will be signed by your Secretary and the special agent for the railroads, thereby entitling the members to return transportation at one-half of the regular one-way fare, which, in your case, will be from Washington to New Orleans at a reduction of $20.10. Northbound ticket may be purchased so as to leave New Orleans on any day during period, April 27th to May 3rd, inclusive, and return tickets may be purchased so as to leave Washington on any day up to and including May 7th.

The Pullman charges from New Orleans to Washington are: $12.00 for a lower berth; $9.60 for an upper; $21.60 for a section; $42.00 for a drawing room, and $33.75 for a compartment.

Hoping that you will be good enough to bring this service to the attention of your members, at the time informing them that, if they will phone me at Main 8268, I shall be more than pleased to arrange for their Pullman reservations for both the going and return trips; also to deliver their rail and Pullman transportation to their office, I beg to remain,

Yours very truly,

E. H. Stoll,
Asst. City Passenger Agent, L. & N. R. R. Co.

THE LESLIE DANA MEDAL.

The fourth award of the Leslie Dana Medal, presented annually through the Missouri Association for the Blind, to the person selected from the nominations received by the National Society for the Prevention of Blindness, will take place during the 1928 meeting of the American Academy of Ophthalmology and Otolaryngology, in St. Louis, Missouri.

Nominations will be received by the National Society for the Prevention of Blindness, together with detailed information prompting the nomination, until the 15th day of May, 1928. The medical profession and ophthalmological societies are invited to submit names of persons deemed worthy of this honor to the National Society, under the conditions set forth in the deed of gift, as follows:

a. Long meritorious service for the conservation of vision in the prevention and cure of diseases dangerous to eyesight.

b. Research and instructions in ophthalmology and allied subjects.

c. Social service for the control of eye diseases.

d. Special discoveries in the domain of general science or medicine of exceptional importance in conservation of vision.

The recipient of the first medal awarded (1925) was Dr. Edward Jackson of Denver. The second annual award (1926) was to the late Miss Louise Lee Schuyler of New York City, and the third award (1927) was to Dr. Lucien Howe, until recently of Buffalo, now of Cambridge.

MISSISSIPPI STATE MEDICAL ASSOCIATION NEWS

J. S. Ullman, M. D., Associate Editor.

The North East Mississippi Medical Society, composed of thirteen counties and about two hundred members, having as its president Dr. H. L. Scales of Starkville, and as secretary Dr. James M. Acker of Aberdeen, held its first quarterly session at Booneville, Mississippi, on March 20th.

The regular monthly meeting of the Issaquena-Sharkey-Warren Counties Medical Society was held in Vicksburg on March 13th with the following program:

Moving Picture—"How Biological Products Are Made."

A Paper—Dr. M. H. Bell.

"Diseases of the Coronary Arteries"—Dr. L. J. Clark.

"Intestinal Obstruction"—Dr. S. W. Johnson.

The staff meeting of the Vicksburg Sanitarium and Crawford Street Hospital was held on March 10th with the following program:

"Cautery Excision of Carcinoma of the Floor of the Mouth"—Dr. A. Street.

"Carcinoma of the Cecum"—Dr. A. Street.

"Mediastinal Tumor"—Dr. G. M. Street.

"Pelvic Surgery in a Diabetic"—Dr. J. A. K. Birchett, Jr.

"Report of the Meeting of the Tri-State Medical Association at Memphis"—Dr. A. Street.

"Report of the Meeting of the American College of Physicians at New Orleans"—Dr. L. J. Clark.

Dr. J. W. Gray of Clarksdale is at present in St. Petersburg, Florida, convalescing from a recent illness.

Dr. T. G. Hughes of Clarksdale is at present in one of the Memphis hospitals.

Dr. S. D. Robinson of Clarksdale is recovering from an automobile accident which occurred a few weeks ago.

Dr. F. H. Tyner has recently located in Clarksdale.

LOUISIANA HEALTH CARS VISIT MISSISSIPPI.

Upon invitation of the State Health Officer, Dr. Felix J. Underwood, the Louisiana State Board of Health sent its health cars to McComb and Brookhaven on the 14th and 15th of February. Dr. Oscar Dowling, Louisiana State Health Officer, was in personal charge of the cars. Fifteen hundred people saw the splendid exhibits in the cars at McComb and more than two thousand at Brookhaven. Several hundred samples of milk from dairies shipping milk into Louisiana were examined by the technician in the laboratory aboard the cars. McComb and Brookhaven are rapidly becoming great dairying centers and thousands of gallons of milk are shipped into New Orleans daily. For the past two years the Mississippi State Board of Health and the local people in these communities have co-operated in an effort to improve sanitary conditions under which this milk is produced. Scores of new barns with concrete floors have been built and many of the old ones remodeled and made satisfactory. Dr. Dowling's visit was greatly appreciated by the people of these communities visited and by the State Board of Health.

The State Health Officer, Dr. Felix J. Underwood was present and made an address at the opening of the Field Hospital at Centerville on the night of February 28. The institution is splendidly built and equipped with a capacity sufficient to take care of thirty-five patients. One statement by Dr. Richard J. Field, builder and owner of the hospital, was particularly pleasing, the statement being that the hospital would not only be a refuge for the sick and suffering, but would be made a health center as well. The fact that the head of a hospital fully appreciates the possibilities of the institution in the prevention of disease and the promotion of the health of the citizens living within its territory will mean that the improvement of the public health in that particular section of the state will advance rapidly.

Dr. H. P. Rankin, graduate of Tulane University, and who received his public health training at the training station conducted by the Rockefeller Foundation at Andalusia, Alabama, was elected director of the Washington County Health Department at the February meeting of the Board of Supervisors and City Council. The Board of Supervisors and City Council met in joint session, the two Boards sharing a joint responsibility in the health department.

Dr. George E. Vincent, President of the Rockefeller Foundation, was a guest of the State Health Department of Mississippi, on Thursday, March 1. Several county health departments in the flooded area were visited and a tour of inspection of field work in those counties was made. On Thursday night a meeting was held at the American Legion Hall and Dr. Vincent was introduced by Dr. Felix J. Underwood, State Health Officer. Dr. Vincent spoke to the citizens of Indianola and the trainees at the public health training school, leaving on a night train for Florida, where he will be the guest of John D. Rockefeller, Sr., for a few days' vacation.

Are you going to Meridian, May 10-12?

Dr. Virgil Payne, formerly with the Clinic of Drs. Payne, Hirsch, Payne and Beck, Greenville, Mississippi, is now associated with Dr. John J. Shea, Memphis, Tenn.

On March 12th Dr. Philip Beekman celebrated the fortieth anniversary of his graduation. The following gathered to honor him and to show their appreciation of his service and of his leadership in the medical profession of Natchez:

Dr. L. H. Lamkin, Dr. W. H. Aikman, Mr. Ike Laub, Dr. J. D. Shields, Mr. Abe Beekman, Mr. Sam Dreyfus, Dr. Edwin Benoist, Dr. J. S. Ullman, Dr. J. W. Chisholm, Dr. Marcus Beekman, Dr. L. B. McLaurin, Mayor Sol Beekman Laub, Dr. R. D. Sessions, Dr. H. M. Smith, Dr. A. J. Kisner, Dr. L. S. Gaudet, Dr. W. K. Stowers, Mr. Alvin Laub, Dr. M. C. Reeves, Vidalia; Dr. J. C. McNair, Mr. C. C. Goetz.

Are you going to Meridian, May 10-12?

Dr. Charles E. Catchings of Woodville has completely recovered from the effects of his recent operation and has resumed his practice.

The Thirteen Counties Medical Society held its regular quarterly meeting at Booneville, March 20th, beginning at 1:30 p. m. Their program was as follows:

"Headache Classification"—Dr. J. G. Lilly, Tupelo.

"Treatment of Un-United Fracture," — Dr. W. W. McRae, Corinth.

"Spontaneous Massive Atelectasis of the Lung" —Dr. Whitman Rowland, Memphis.

Paper—Dr. T. P. Haney, Jr., Burnsville.

"The Failing Heart"—Dr. R. B. Caldwell, Baldwin.

"Blood Transfusion"—Dr. R. B. Cunningham, Booneville.

Are you going to Meridian, May 10-12?

POLIOMYELITIS IN THE UNITED STATES, 1927.—During the year 1927 the incidence of poliomyelitis in the United States was higher than it was during any other year since 1916, when a widespread epidemic of the disease occurred.

Weekly telegraphic reports from the State health officers of 38 States are available for the years 1925, 1926, and 1927. The aggregate population of these States was about 89,000,000 in 1925, 91,800,000 in 1926, and 93,000,000 in 1927.

The aggregate numbers of cases of poliomyelitis reported for 52 weeks of each year are as follows:

1925	4,903
1926	2,074
1927	7,784

The aggregate number of cases reported was not sufficient to give warning of a general epidemic until late in July, 1927, although California, Louisiana, New Mexico, Arizona and Texas reported more than the usual seasonal rise in the prevalence of poliomyelitis in June and July. This is in sharp contrast with the history of the epidemic of 1916, when New York State reported 345 cases of poliomyelitis in June and more than 4,000 cases in July.

In 1916 the peak of the epidemic was reached before the end of August, except in a few States, while in 1927 the peak was not reached until the middle of September, and the epidemic receded very slowly until after the first week of October.

The geographic distribution of the cases of poliomyelitis was irregular. This appears to be characteristic of the disease. In 1916 about half of the reported cases occurred in the State of New York, although the 26 other States which reported had almost six times the population of New York. In 1927 the States reporting the greatest number of cases were California, Massachusetts and Ohio.—Public Health Reports, 43: 378, 1928.

BOOK REVIEWS

Chemical Pathology: By H. Gideon Wells, Ph.D., M. D. 5th Ed., revised and reset. Philadelphia. W. B. Saunders. 1925. pp. 790.

This text has long since established its position in its special field of application. This latest edition has been written after a lapse of five years, during which period considerable advancement has been accomplished along these lines. The book has been more or less rewritten and in order to permit of proper augmentation to advance it to modern date, certain of the elementary portions have been omitted. The extensive literature, always a feature of the text has been increased and brought up to date which fact has made it more valuable as a research reference manual for workers in this special field. It is a fact that in the usual written pathological courses, given in medical schools, too little time is permitted for the interesting and at times important chemical considerations involved in the processes studied. Because of this occurrence the student is often referred to collateral reading for this phase of the subject, a purpose which this text fully supplies.

W. H. HARRIS, M.D.

Textbook of Pathology: By Alfred Stengel, M. D., Sc.D. and Hebert Fox, M. D. 8th Ed. reset. Philadelphia, W. B. Saunders, 1927. pp. 1138.

This text, now in its eighth edition covers the field of pathology very generally. While it does not give very extensive details, its subject matter is very complete.

A paragraph dealing with the etiology of each pathological subject, is given throughout the text. This arrangement is certainly desirable as it gives to the student the proper continuity of thought between cause and effect. It therefore links the subject of bacteriology with pathology, which is important particularly to medical students who are apt to overlook the relationships or connecting links of these two branches of study.

It is therefore a useful reference text for students as its considerations are brief but ample, and its topics replete. Instead of extensive literature the authors have preferred to select only salient, authoritative references and have even endeavored to employ those more readily obtained. The illustrations are extensive and while not outstanding are sufficient to demonstrate the lesion desired. Some colored illustrations are shown which are very representative. As a whole this text should be of value to a medical student or a general practitioner, which feature is all that its authors intend it to be.

W. H. HARRIS, M.D.

Nasal Neurology Headaches and Eye Disorders: By Greenfield Sluder, M. D., F. A. C. S. St. Louis, C. V. Moseby Co. 1927. pp. 428.

This interesting treatise of some 400 pages is the result of Sluder's years of experience in rhinology and deep interest in nasal neurology and pathology of the posterior sinuses.

An introductory chapter by Jonathan Wright is descriptive of the minute pathological anatomy in involvement of the superior accessory sinuses.

Sluder believes that the explanation of the mystery of the etiology of many eye lesions is to be found in the hyperplastic lesion of the post-ethmoidal-sphenoidal district; and to a degree of frequency, if it could be put into percentage, that would astonish us all. However he does not believe this lesion to be the explanation of all such cases and advises definite discrimination in selecting these cases for surgical interference. He says "Personally I cannot but feel that post-ethmoidal-sphenoidal surgery for the relief of eye lesions is always fraught with great responsibility. For this reason I feel that it should be executed only upon the basis of a definite diagnosis."

Special emphasis has been made on the neurological side of rhinology and the special part played by the involuntary nervous system which is superficial in the nose and nowhere else in the body.

Some of Sluder's deductions may be open to controversy, but his book is nevertheless well worth study.

H. KEARNEY, M. D.

Surgery: Principles and Practice: By Astley Paston Cooper Ashhurst, A. B., M. D., F. A. C. S. 3d ed., thoroughly rev. Philadelphia, Lea & Febiger. 1927. pp. 1179.

The text-book is an excellent one, especially for students, as it is clearly written, exceptionally well illustrated, and contains a number of excellent colored plates. The chapters on diseases of the osseous system, including fractures, infections, and neoplasia, are especially well written and complete. Of especial interest and value to the student is the complete manner in which Ashhurst has handled the chapters of minor surgery, a subject which is frequently neglected in surgical text-books.

The work shows painstaking preparation, and is an excellent review of the surgical literature, as well giving a large number of original observations.

ALTON OCHSNER, M. D.

Percival's Medical Ethics: Ed. by Chauncey D. Leake. Baltimore, The Williams & Wilkins Co. 1927. pp. 290.

Leake, although a Ph.D. and not an M. D., has been interested in medical history for some time. It has remained for him rather than a physician to have republished Percival's Medical Ethics, one of the most interesting of historical books relating to the medical profession, which first appeared over 100 years ago. In addition to the reprinting of these ethics, there is also incorporated in the book a series of essays pointing out the general principles of medical ethics as applied to the physician, not only by himself, but also by the law and the laity together with one on the influence that Percival's ethics has played on the medical profession. It also includes the Apothecaries' Oath and the several ethics adopted by the American Medical Association in 1847, 1903 and 1912. This book could be read with advantage by all medical men, and it makes a welcome addition to any physician's library, as he can spend many a physically relaxing, mentally stimulating half hour in reviewing the rules of conduct which have governed the men of his profession for a goodly century or more.

J. H. MUSSER, M. D.

Gastro-Enteroptosis: By Robert C. Coffey, M. D., F. A. C. S. New York, B. Appleton & Co. 1923. pp. 303.

Coffey's book on Gastro-enteroptosis is the only monograph written in the English language on the subject, and is undoubtedly a very valuable work. Glenard in the 80's called the attention of the medical world to this most important subject by his classical monographs.

Whilst the condition known as gastro-enteroptosis belongs mostly to the domain of internal medicine ,and that these patients should be treated medically instead of surgically, we must agree with Moynihan, who says in his appreciatory note prefacing this volume, that the author states his full case in a manner which will command the respectful attention and admiration of all surgeons, and to which, I may well add to all internists.

The chapters on the structure of the abdominal wall, the shape of the abdominal cavity, the suspensory supports of the abdominal cavity, intra-abdominal and intravisceral pressure, on constipation, acquired and postnatal, developmental processes, abdominal ptosis, are masterpieces and should not only be read, but should be studied by every internist.

It is most unfortunate that this work forms part of a surgical series, and is not sold individually for it would have a far greater circulation if it were easily procured by the internist and the general practitioner.

Gastro-enteroptosis has been widely written about, the literature is voluminous, but unfortunately this most important phase of medicine, which has such an important bearing upon the diagnosis and treatment of a multitude of chronic conditions, has been given but scant attention in our text-books.

It is to be hoped that in the near future a companion to this work, discussing its true aspect, and that is the medical, will be available to the medical profession.

A. E. FOSSIER, M. D.

Fighters of Fate: By J. Arthur Myers. Baltimore, Williams and Wilkins Company, 1927. pp. 318.

This book undertakes, by means of short biographical sketches, to tell of those who rose to renown and fame, though handicapped by tuberculosis. The foreword is by Dr. C. H. Mayo. Although the author says it is a story of men and "women," only one woman is mentioned, in a list of twenty-four. It should certainly serve as a realization that the tuberculous can be returned to a life of usefulness to himself; of benefit to his family and of happiness to his friends. I feel that to overlook to mention the life and achievements of R. L. Stevenson was unpardonable. To one who has read Stevenson's dedication to physicians, it seems a gross neglect to have been left uninvited to this assembly of the great and near great, by the host, the physician. The references, at the end of each biography make the book a good reference. Quite a number of original sources are quoted. It is written in good style and succeeds in holding one's interest.

I. L. ROBBINS, M. D.

The Essentials of Otology: By George Birmingham McAuliffe, A. B., M. D., F. A. C. S., New York, Oxford University Press. 1927. pp. 177.

This book represents the experience gained as a teacher of Otology over a long period of years. It is an excellent volume covering the subject matter in a highly practical manner yet thoroughly and concisely. The subject is so divided and presented as to hold the keen interest of the reader throughout. The chapter on "Equilibrium and Vertigo" is well worth reading.

For the student this book contains and presents concisely, much information rarely found in larger volumes.

F. E. LEJEUNE, M. D.

Gynecology: By Howard A. Kelly, A. B., M. D., LL.D., and Collaborators. New York and London, D. Appleton & Co. 1928. pp. 1043.

Just as thirty-odd years ago the publication of Kelly's Operative Gynecology marked a milestone in the progress of the specialty of gynecology, so the publication of this book, thirty years later, marks another milestone. Not often, as the author himself says in his preface, is it given to one man to write two books on the same subject at an interval of a generation, and especially a generation in which his subject has had almost literally a new birth. Gonorrhea, syphilis, sterility, orthopedic, kidney and psychiatric pathology in their relations to gynecologic pathology, endometrioma, carcinoma, plastic surgery, endocrinology, organotherapy, protein therapy, X-ray, radium, many of these subjects were unheard of or were in their infancy when Kelly's Operative Gynecology appeared in 1898. The Gynecology of 1928 is a new book, new in its conception of many things, new in its sense of values, as it most clearly exemplified in the dropping of the adjective from the title, and yet in its essence it is the same book which for more than a quarter of a century has been the encyclopedia not only of young practitioners but of men grown gray at their trade.

More than twenty gynecologists, all of them masters in their special fields, have collaborated with Kelly in the production of this book, and it must be a source of pride and pleasure to him that so many of these were trained under his own eye in the Hopkins clinics and that they illustrate one more phase of his peculiar ability to teach others to follow in his steps. One has the impression that behind every statement in the text lies a wealth of clinical experience, and that the sum of it all is what we might term the commonsense of gynecology. The clinician and the patient are the things which really count; all else, though not discarded, is only subordinate.

Amid so much that is excellent it might seem undue discrimination to comment on individual contributions, yet certain chapters deserve special mention, particularly Novak's on menstruation, Ward's and Farrar's on the surgery of the pelvic floor, and Burnham's on radium therapy. As for Kelly's own contributions, they are all characterized by his unfailing good sense and sound knowledge, and his chapters on bladder and urethral pathology in its relation to gynecology, a field in which he was virtually a pioneer, are especially noteworthy.

It might seem ungracious, in this feast of good things, to point out omissions, for in work of such scope these are bound to occur, yet one cannot fail to be struck by the fact that the very valuable work of Frank in the field of endocrinology is practically ignored, and that lipiodol as a diagnostic aid in sterility is also overlooked. Naturally also there are many points in which one would disagree with the authors, and one of these, at least must be mentioned: I have reference to Kelly's continued insistence on the safety of curettage as an office procedure. In his own hands it is undoubtedly safe and accurate and convenient, but it seems scarcely necessary to point out that the bulk of the practice of gynecology is not done by men of Dr. Kelly's ability.

As in the earlier book, so in this the illustrations set a new standard of excellence. Art in medicine could scarcely come to fuller flower. Max Broedel's own surpassing work, Horn's, Becker's, Shannon's, Freret's, all combine to make a series of illustrations absolutely unique in accuracy of detail and in real beauty.

A review of this brevity cannot adequately set forth the merits of this book. It is literally a compendium of gynecologic knowledge, the fruit of a full life of labor and sacrifice and ever-ripening wisdom. Let us hope that it is written not, as the author himself says, in the twilight, but rather in the full noonday, when the shadows of evening are still far ahead. It is a book for all, young and old, tyro and veteran, alike to read and ponder and profit by. The giants who once were on the earth are with us still. American gynecology is the richer because of Howard Kelly's life and work, and we say to the author, not the Vale he himself pronounces, but rather an Ave, with the hope that ahead of him lie other equally full and happy and fruitful years.

C. JEFF MILLER, M. D.

Four Thousand Years of Pharmacy: By Charles H. LaWall, Ph.M., Phar. D., Sc.D., F. R. S. A. Philadelphia and London, J. B. Lippincott Co. 1927. pp. 665.

To the pharmacist, the medical man and the historian this outline of a history of four thousand years of pharmacy, will prove of great interest. Indeed it might be said that the book will be of interest to any individual of intelligence above that of the child of the seventh grade. It recounts in words which can be understood by the laity so many interesting and hitherto unappreciated facts of pharmacy that the reader finds himself enthralled with the interest of it all. In addition to the excellent text, almost every other page is a full page illustration adding much to the zest of reading.

J. H. MUSSER, M. D.

A Text-Book of Psychiatry for Students and Practitioners: By D. K. Henderson, M. D. (Edin.), F. R. F. P. S. (Glas.), and R. D. Gillespie, M. D. (Glas.), D. P. M. (Lond.). London, Oxford University Press. 1927. pp. 520.

An illuminated volume which bespeaks much sincere investigation and contact with subject matter therein.

The chapter dealing with "Historical Review of the Care and Treatment of Mental Illness" is not only well written but instructive, for so few of the medical profession, aside from those interested in neuropsychiatry, know this history in continuity.

The classification termed "Suggested Scheme" by the authors, in part is new and original. While I agree with them as to the heading "Schizophrenic Reaction Types," I much prefer the American or Kraepelinian as modified by the New York State hospitals, which includes the dementia praecox group, for we do find today cases diagnosed as dementia praecox who are not demented, and who by intelligent observation have been declared recovered from their attack, could these have been a manic depressive entity with schizoid coloring?

Each chapter abounds with new data, helpful to the medical profession at large, and especially will neuropsychiatrists enjoy these inasmuch as our views are changing to a more constructive end regarding this branch of medicine.

The chapter on "Mental Defect" in the opinion of the reviewer could have dealt entirely with the intellectual defect states, assigning a special part of the book to the emotional defect states (constitutional psychopathic inferiority) as the general public and many of the medical profession are not as yet educated to the point of discrimination, *i. e.*, that mental defect may be of one type or other—namely, that the condition should have existed from birth or an early age.

The part assigned to psychoneuroses is handled in a comprehensive manner. It is healthy to read that there is no attempt to popularize the term "shell-shock."

The terminal chapter on forensic psychiatry should be received appreciatively by not only medical men but those interested in criminology and the law, being written in a clear understandable manner, shorn of all mysterious or catchy phrases.

WALTER J. OTIS, M. D.

Nerve Tracts of the Brain and Cord: By William Keiller, F. R. C. S. (Ed.). New York, The Macmillan Co. 1927. pp. xiii+456.

This work combines several aspects of Neurology—as indicated in the subtitle "Anatomy: Physiology: Applied Neurology"—with the aim "to furnish a good working scientific basis for an intelligent understanding of the symptomatology and diagnosis of those nervous diseases that come within the domain of the general practitioner." (Part I (110 pages) is devoted to the finer anatomy of the brain and spinal cord. Part II (158 pages) contains a review of the more important pathways with emphasis on functional considerations. Part III (152 pages) embraces applied neurology. The arrangement entails considerable repetition.

The figures, numbering over 225, are grouped together at the end of the book. It is an unfortunate disposition of the illustrations, since they are thus removed from the related text matter with which they are to be compared in reading. The illustrations are for the most part crudely executed line drawings, and though in many instances they are no less instructive than more faithful reproductions some of them hardly justify publication.

In its organization and allotment of space to various subjects the book falls short of the ordinary requirements of a text, whether it be intended for a course in neuroanatomy or clinical neurology. Neither is it superior to the works previously available as references for the student and practitioner.

HAROLD CUMMINS, Ph. D.

A Manual of Pharmacology: By Torald Sollmann, M. D. Philadelphia and London, W. B. Saunders Co. 1926. pp. 1184.

Sollmann's Pharmacology, called a manual but in reality a large tome of 1200 pages has been, since the original publication in 1917, recognized throughout this country as one of the outstanding works on the subject. This new edition is published not only because of the necessity of incorporating the new material in the realm of pharmacologic science which has appeared within the last few years, but also because of the new revision of the United States Pharmacopoeia, which has required a thorough review of the pharmaceutical preparations which have been made to conform with this standard. The book is a most excellent one in every way. It should be of value to the student, to the teacher, and because of the succinct but full, thorough and careful directions for the administration of the various drugs, of particular merit for the practitioner and physician.

J. H. MUSSER, M. D.

Practical Bacteriology, Blood Work and Parasitology: By E. R. Stitt, A. B., Ph. G., M. D., Sc. D., and Collaborators. Eighth revised edition. Philadelphia, P. Blakiston's Sons & Co. 1927. pp. 837.

As a compendium of clinico-pathologic technic and interpretation, there is certainly no book that is already better known or more frequently consulted by laboratory worker or clinician.

With the collaboration of several members of the Naval Medical School, the former "pocket manual" has emerged from this revision in a considerably enlarged form and has been brought completely up-to-date by the introduction of practically all of the newer diagnostic tests, as well as a comprehensive treatise on the "Problems of Nutrition in Health and Disease."

Among the new additions to technic, particular attention has been paid to the precipitin test for syphilis, the entire Kahn test being given in great detail and well illustrated.

The chapters on bacteriology are particularly well written and include the latest discoveries in the streptococcus group. The new bacterial nomenclature is used throughout the bacterial keys, but for the most part the old names, most familiar to the present medical generation, are maintained in the general text.

The blood dyscrasias are also adequately covered, with all of the technical procedures necessary in the differential diagnosis of the anemias, such as fragility tests, volume, index and reticullated cell counts. In fact, there is hardly a modern clinical laboratory test from the blood sedimentation rate or the van den Bergh liver function test to the cultivation of amebas that is not completely covered and often illustrated.

F. M. JOHNS, M. D.

DeLamar Lectures 1926-1927: By the Johns Hopkins University. Baltimore, The Williams & Wilkins Co. 1928. pp. 223.

The purpose of the DeLamar endowment is to present to the general public practical knowledge of modern hygiene. This present series of published lectures carrys out well the ideas of the founder of the lectures. Eleven lectures are found in this volume, which includes discussions of such subjects as immunity, bacteriology, parasitology, environment in relation to health, results of malaria control measurements as well as more specific subjects such as heart disease, tularemia, measles, scarlet fever, and tuberculosis. The subject matter is excellent, it is needless to state, as it has been contributed by such men as Neufeld, Nuttall, Park and Barber, among others. The editorial work however can not be commended; several grave and obvious misprints will at once strike the eye and do away with some of the pleasure of perusing the work.

J. H. MUSSER, M. D.

PUBLICATIONS RECEIVED.

Oxford University Press, New York and London: "The Surgical Treatment of Malignant Disease," by Sir Holburt J. Waring, M. S., M. B., B. Sc. "The Abdominal Surgery of Children," by L. E. Barrington-Ward, Ch.M., F. R. C. S., "Post-Mortem Appearances," by Joan M. Ross, M. D., B. S., M. R. C. S., L. R. C. P.

Paul B. Hoeber, New York: "Aluminum Compounds in Food," by Ernest Ellsworth Smith, Ph.D., M. D. "Asthma, Its Diagnosis and Treatment," by William S. Thomas, M. D. "Muscle Function," by Wilhelmine G. Wright. "The Mechanics of the Digestive Tract," by Walter C. Alvarez, M. D.

D. Appleton and Company, New York and London: "Pharmacotherapeutics, Materia Medica and Drug Action," by Solomon Solis-Cohen, M. D. and Thomas Stotesbury Githens, M. D.

Williams & Wilkins Company. Baltimore: "Mongolism," by Kate Brousseau.

W. B. Saunders Company, Philadelphia and London: "Local Anesthesia," by Geza de Takats, M. D., M. S.

P. Blakiston's Son & Company, Philadelphia: "An Elementary Text Book of General Microbology," by Ward Giltner.

MacMillan Company, New York: "Brain and Mind or the Nervous System of Man." by R. J. A. Berry, M. D., F. R. C. S., F. R. S.

F. A. Davis Company, Philadelphia: "Handbook on Diet," by Eugene E. Marcovici, M. D. "Safeguarded Thyroidectomy and Thyroid Surgery," by Charles Conrad Miller, M. D. "Diseases of the Intestines," by Anthony Bassler, M. D., F. A. C. P.

U. S. Government Printing Office, Washington, D. C.: "The Medical Department of the United States Army in the World War, Volume VII, Training," by Col. William N. Bispham, M. C.

Free Press Printing Company, Burlington, Vt.: "The Springtime of Physick, being a Diverting Outline of Medicine and Surgery," by Laurance D. Redway, M. D.

Johnson & Johnson, New Brunswick, N. J.: "First Aid and Medical Service in Industry," compiled from a Survey.

REPRINTS.

"Syphilis of the Bladder," by Winfield Scott Pugh, New York.